

# **Master thesis in Energy, Environment and Society**

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*A qualitative study of corporate environmental reporting through the reporting software, Synergi Life*

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## Abstract

The term sustainability is infiltrating every corner of the society these days, and the corporate world is no exception. The focus among stakeholders and the society at large is on corporations' responsibility towards society. More information about and insight in a company's business is becoming more demanded by stakeholders, in order for them to get a better overview of the corporate world's sustainability. Being transparent, by reporting environmental, social, and governmental (ESG) information, is a relevant measure for companies to give the stakeholder and the society the information they need. However, such reporting is not universally mandatory and there are no universal rules, requirements nor standards that tell companies exactly how ESG reporting should be done and what information such reports must include. Therefore, the way companies report today is often very different from each other which makes it difficult for stakeholders to evaluate and compare similar companies.

The latter issue is very broad and can be interoperated and research from many perspectives. This thesis is however, mainly focusing on the environmental aspect of ESG reporting. This is done by using a reporting software called Synergi Life as an example. Synergi Life is an established reporting software owned by DNV (Det Norske Vertias) that makes it possible for companies across sectors to report information on different matter such as, environmental activities.

This qualitative study is using collected data from the software as well as participants with different roles to create an example that shows the main challenges of environmental reporting, from the companies' perspective as well as the stakeholder's perspective. Relevant theories such as stakeholder theory, shareholder theory and legitimacy theory are used together with other relevant studies that presents the guidelines, initiatives, and requirements of ESG reporting to give a broad foundation for the discussion and analysis.

## Acknowledgments

A five-year journey at the University of Stavanger has now come to an end, and my life as a student is officially over. I have learned and grown a lot both personally and intellectually during my years in Stavanger. I will forever treasure this chapter of my life and take all the knowledge and experience with me into the new chapter.

Through the process of writing this thesis I have expanded my network and gotten in touch with interesting people that has given valuable contributions to my research. However, it has been a challenging experience writing a master thesis and I quickly understood that this is a marathon. It has therefore been extremely important to keep pushing through, although it has been tough at times. I therefore, want to start by thanking my supervisor Raul for getting me through this marathon. He has been a great motivator through this whole process, and I would not be where I am today without his time, help, support, and constructive feedback - Thank you Raul! Secondly, I would like to thank the Faculty of Social Science – Department of Media and Social Science for five intellectual years.

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# 1 Introduction

In this chapter some broader context to the thesis will be pretended to set the reader into the relevance of why this is studied now. Further, an explanation of how the topic of the thesis will be studied is disclosed before the aim and research questions are presented. Lastly, the structure of the thesis will be briefly explained.

## 1.1 Relevance of the topic

Environmental climate change has been a factuality since the beginning of the industrial revolution (-1850). Since the industrial revolution scientists have given our age an unofficial unit of geologic time, called the Anthropocene. The Anthropocene is considered to have begun when human activities started to have a significant impact on the environment. The impact of human activities has rapidly increased more each decade, making the ozone layer depleted (Crutzen, 2006).

In 2008 the former Secretary-General of the United Nations (UN), Ban Ki-Moon, stated that “Global warming remains the defining challenge of our era” (UN News, 2008). In August of 2021 the current Secretary-General of the UN, António Guterres claimed that at this point it is “code red for humanity” (UN News, 2021). Although climate change has become a crisis through the 21st century it has been a known factuality for many centuries. New technologies and knowledge have curated new information on the actual consequences, damages, and time aspect of the climate change crisis. The climate changes and risks that follow are irrefutable and it is important that all participants in the society are coming together to solve the issue.

Based on the current situation of the environment and climate change, different measures are being done to combat the challenges. The Paris Agreement was in 2015 the first ever binding agreement to tackle climate change and 196 countries adopted a global goal (UNFCCC, 2015). The main measure that needs to be done to fulfill the goal of the agreement is for countries to mitigate their GHG emissions. By 2020 all the countries that have adopted the agreement, had to submit a long-term low GHG emission development strategy. Through this strategy the countries must follow and keep track of their GHG emission. To do so, they can get financial, technical, and capacity building support from other countries. Starting in 2024 countries will report transparently on actions taken and progress in their climate change mitigation, in addition to adaptation measures and support received or provided. This

enhanced transparency framework (ETF) will assess the collective progress towards the long-term climate goals (Van de Graaf and Sovacool, 2020).

The emerging focus on reporting and tracking GHG emissions, as portrayed above, does not only apply to countries, but the corporate world as well. Countries are relying on companies to reduce their GHG emissions to be able to reach the overarching global goal. Stakeholders and society at large, are therefore demanding companies to report their environmental activities. Moreover, the focus among stakeholders is not solely based on tracking companies GHG emissions and other environmental information, but for the society to become more sustainable. Sustainability has been defined as: “Meeting the needs of present generations without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). Until recently the world has been globally focused on economic growth and fossil fuel energy has been one of the main sources of the rapid economic growth. Therefore, the term sustainability has for a long time been seen as conflicting with making money. This has changed as the societies focus and agenda has shifted (Kolk, Levy & Pinkse, 2008).

The fact that stakeholders such as investors can choose not to invest in an unsustainable company is something they did not have the luxury of doing a few years back. The transition from economic growth through fossil fuels to now phasing them out is a result of the change towards more sustainable societies. Such transition is not done over night, but through a multiple step process. Firstly, the active forces such as social movements, inputs from scientific communities among other incumbent interests must influence and develop coalitions that get noticed by the political institutions. The politics and political institutions such as the parliament can then reorient state/government apparatus. Lastly, the government's apparatus can readjust societal trajectory through policy. After this process the politics and states interests have readjusted or established a new trajectory that will accumulate into new politics. When this process is finished, the society can demand their interests in a new way. An example being investors demanding proof from customers on their GHG emissions (Meadowcroft, Holden, Linnerud, Banister, Langhelle and Gilpin, 2019, p. 252).

The conceptual relationship between companies and stakeholders is addressed more in-depth in the theory chapter, and further discussed in the discussion and analysis. However, it is important to emphasize that companies are relying on stakeholders to survive and evolve. The



corporation world is therefore destined to align their business and report the information the relevant stakeholders are demanding. Based on the definition of sustainability companies are demanded to disclosed information related to environmental, social, and governmental activities (ESG), for a stakeholder to assess a company's sustainability. Additionally, clear, and transparent ESG information is important for a company to disclose in order to be held accountable for possible consequences of their business. Simultaneously, it gives the stakeholders the possibility to make a well-informed decision based on the provided information (Krueger, Zhong, Tang and Sautner, 2021; Chen, Hung, and Wang, 2018; Nelson, 2021).

## 1.2 How will it be studied

The information disclosed above gives a broader context to the issue this thesis is studying. Because of the increasing focus on climate changes in every part of the society, stakeholders are now demanding more insight into companies' business, similar to the EFT. Some of the issues with the insight the stakeholders want is how it is not mandatory for a company to disclose their ESG information. Additionally, there are no universal rules for how companies should report their information which results in different stakeholders wanting different insight from companies. This makes it difficult for companies to report sufficient information to the different stakeholders wants, as well as for stakeholders to compare two companies based on their disclosed ESG information (Krueger et.al., 2021; Chen, et al.,2018; Liesen et al., 2015).

Through the thesis, relevant guidelines, and requirements for ESG reporting is disclosed through review of different literature. To give a better perspective to the lack of structure in ESG reporting, financial reporting framework is briefly addressed to compare along with other theoretical approaches.

The data collected for this thesis is used to study how environmental reporting can be facilitated through a software called Synergi Life. Synergi life is a reporting software owned and operated by the Norwegian company DNV (Det Norske Veritas). The software provides the possibility for companies across sectors to collect and make reports on their environmental data. The environmental aspect of ESG reporting is therefore enlightened through Synergi Life and the experience of a few users and a developer. Further, the thesis shows through examination of Synergi Life and by an interview with a stakeholder, how non

universal reporting “rules” creates differences in the company’s way of reporting. Additionally, the participants of this study that uses the software, explains why and how they report to visualize certain differences. This together with the regulations that do exist and some insight from the demanding side (investor) creates a discussion that enlightens this topic from a unique point of view.

### 1.3 Aim and research question

The aim of this thesis is to understand and show how environmental reporting is facilitated based on the regulations, guidelines, and initiatives that exist on how companies can choose to report. The study also aims to display how the “relationships” between companies, stakeholders and shareholders affect why and how companies report their environmental data as they do. Also, by using Synergi Life this study is able to give a concrete example and visualisation on how this all works in practice. Moreover, this study is using claims from the demanding side, and stakeholders’ perspective is therefore most prominent.

The discussion and analysis are based upon two research questions that will combine the theory and literature that is presented earlier in the thesis with the results of the collected data.

To achieve its aims, this study proposes to research questions:

*RQ1: How is environmental reporting challenging from a stakeholder's perspective?*

*RQ2: How does Synergi Life facilitate environmental reporting?*

While these questions are broadly descriptive, they will provide an empirical basis to explore a largely unresearched phenomenon. Moreover, these questions will be the basis for analysis structure in the discussion chapter.

## 2 Background and Literature Review

In this part of the thesis some general background will be disclosed in order to put some essential context to the aim of this study.

Relevant literature is also presented to give examples of similar studies. The background and literature that is presented in this chapter will be further used to support the data collected for this thesis as well. After the background is disclosed and relevant literature is presented some main take aways will be presented to assess possible gaps in the literature.

### 2.1 Background

Climate change is evolving fast and in a negative direction. However, we have been aware of this development for many centuries. Although the possible consequences of CO<sub>2</sub> emissions were known already in the 19th century, they could not foresee the development of fossil fuel cars or the expansion of the oil and gas industry that came during the next century. It was not possible for the scholars to foresee the gradual consequences of important species dying and ice melting (Thompson, 2019).

A century later, in 1983 Gro Harlem Brundtland was called upon by the Secretary-General of the United Nations, to chair a special independent commission to address a major challenge to the world community. The challenge was to face our common future and to safeguard the interests of future generations. Brundtland became responsible for establishing “a global agenda for change”. This agenda became an extensive report that was published in 1987 as “*Our common future*”. (World Commission on Environment and Development, 1987). The report emphasises, among other things, the importance of coordinating responsibility and political actions to create common goals for the future (WCED, 1987). “Our common future” is recognized to be the starting point of the acknowledgment on the increasing climate change we face today and has become a catalyst for a collective focus to transition more towards sustainability.

In the following decades the Intergovernmental Panel on Climate Change (IPCC) has published six assessment reports (AR) on scientific knowledge regarding climate change, in addition to other smaller reports every year. The IPCC works as the UN’s right hand to systematically report on climate-related risks. Additionally, the UN has frequently held conferences and summits that have led to pacts, protocols, and agreements to further create

awareness and develop a global goal. All of the UN's 193 members/countries (as of 2021) At the Conference of Parties 21 (COP21) in Paris 2015 all of the then 196 members, adopted the legally binding treaty to reach the global on climate change. The global goals are explained as; "Holding the increase in the global average temperature to well below 2°C above pre-industrial level and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (Van de Graaf and Sovacool, 2020). This global goal is known as the Paris Agreement. The Paris Agreement is the first ever binding agreement that brings all nations together to combat climate change (UNFCCC, 2015)

After the Paris Agreement was adopted, corporations have felt an ever-growing pressure to disclose their activities to different parties, groups, and individuals (stakeholders and shareholders) involved in the company. Assessing or evaluating the impact of a company's different projects has been done by companies or third party for many decades. "Impact Assessments" started out as assessing the environmental impact of a project, however in later years "Impact Assessments" have expanded to include different kinds of social impacts as well (Banhalmi-Zakar, Gronow, Wilkinson, Jenkins, Pope, Squires, Witt, Williams, Womersley, 2018).

Environmental Impact Assessment (EIA) is considered as one of the most used environmental policy instruments in the world. Hundreds of developed and developing countries has introduced EIA over the last 50 years. In contrast to impact assessment, the EIA only focuses on the environmental impact of a company's project (Andrews 2017, Banhalmi-Zakar et al. 2018). Accordingly, the aim of the EIA is for a company, regardless of it being public or private, to incorporate environmental considerations into the decision-making process of a project (Carter 2007). By getting an overview in advance, the possible environmental impacts are detected, which makes it easier to mitigate (Banhalmi-Zakar et al. 2018). Additionally, one of the strengths of the EIA is the ever-expanding knowledge of environmental impact, as well as the accessibility and transparency of the impact information (Andrews 2017). Transparency is important for stakeholders, such as experts and other groups in society, to express their views and concerns to a company's business (Andrews 2017). However, the efficiency of the EIA as a policy instrument can be questioned. It has been accused of delaying projects more than improving the decision-making process (Andrews 2017). Lastly, the EIA is designed to support the decision-making process of a project, but it is only designed for projects within a certain scale. In other words, whilst the EIA has been an

important tool over the last 50 years to reduce and prevent harm to the environment, it's design may not be applicable for certain scale companies, nor all projects, which means much environmental impact cannot be assessed or detected through an EIA. Hence, other tools or policy instruments should supply or substitute it (Howard, 2022).

Reporting and disclosing environmental, social, and governmental (ESG) information are another tool to assess a company's impact on the environment - as well as it's sustainability (Christensen, Hail and Leuz, 2021). ESG reporting includes environmental activities (such as biodiversity, waste management, climate change and carbon emissions), social activities (such as human rights, labour standards, diversity and customer satisfaction) and governmental activities (such as lobbying, whistle-blowers and political contribution) ( Krueger, Zhong, Tang and Sautner, 2021; Chen, Hung and Wang, 2018). These three factors are combined into a non-financial way of reporting, known as ESG reporting. ESG reporting can be seen as similar to corporate social responsibility (CSR), however ESG have distinguished and categorised the relevant factors more explicit between environmental, social and governmental. The activities that are being disclosed in ESG reports are supposed to determine how sustainable a company is. This is important knowledge for investors and other stakeholders, so that they can understand how the company they invest in are contributing to sustainable development.

## 2.2 Literature Review

There are multiple different studies and literature on ESG and CSR reporting, however, most of them are from a financial point of view. This literature review is starting by roughly explaining how the financial reporting is done to further portray the contacts to ESG reporting. Furthermore, the literature will continue by explain how ESG information is affecting the way investor's invest Rahman, Rashidah, and Alsayegh, 2021) and how mandatory ESG disclosure actually has a positive economic effect on companies (Krueger, et al., 2021; Chen, et al., 2018). Other studies presented are discussing how ESG disclosure contributes to a sustainable development (Lokuwaduge and Heenetigala, 2016). Furthermore, Global Reporting Initiative (GRI), Corporate Sustainability Reporting Directive (CSRD) and the Greenhouse Gas Protocol (GHG Protocol) are also explained and used as examples of guidelines and initiatives to help answer the research question of this thesis.

For the sake of this study's aim, ESG reporting will be the term used in this thesis, instead of CSR reporting. The terms are similar and often used interchangeably, but ESG reporting is slightly more concrete on what it should be reported compared to CSR reporting which is more general for all social matters (Christensen et al, 2021). ESG reporting is therefore slightly more applicable for this study.

### 2.2.1 Financial reporting framework

As most of the relevant studies for this thesis are from a financial point of view, financial reporting "habits" are often disclosed in order to compare it to ESG reporting. Financial reporting is a reporting framework that is well established and regulated through being mandatory and required for all listed companies. Companies should meet quality standards given by the country they operate their business in. The quality standards of the financial reporting framework often include relevance, reliability, comparability, and faithful representation (Lokuwaduge and Heenetigala, 2016; de la Cuesta and Valor, 2013).

In other words, the financial reporting is universally mandatory and because of its well-established quality standards, it is highly accountable. The main difference between ESG reporting and financial reporting is how it is universally mandatory.

### 2.2.2 Sustainable development through disclosing ESG information

According to Lokuwaduge and Heenetigala (2016), disclosing ESG information has become a critical part of a company's business strategy. Global Reporting Initiative (GRI) is an independent, international organization that provides help to all types of organizations and businesses to take responsibility for their impacts (GRI, 2022). GRI provides a common global language that can be used to collectively understand and communicate a company's impact. Accordingly, GRI has the most widely used standards for sustainability reporting with a goal to make sustainability reporting more transparent and create an open dialogue about impacts (GRI, 2022). The United Nations Principle of Responsible Investments (UNPRI) presents six principals for responsible investments. The common aim of all six principles is for investors around the world to incorporate ESG issues into their investment practice (UNPRI, 2022). Moreover, GRI is made to provide guidelines for corporations and UNPRI is made to provide principals for investors. However, they share the same focus or goal which is to disclose suitability impacts, but most importantly they are both voluntary initiatives for their target groups (UNPRI, 2022; GRI, 2022). Lokuwaduge and Heenetigala (2016) use both

GRI and UNPRI as examples of international organisations that have made various guidelines and improvements to make ESG reporting a practice around the globe. However, they point out that the focus on reporting non-financial information is still not prominent in many countries.

### 2.2.3 Influence on corporate ESG disclosure

The environmental movement has increased within different parts of society all around the globe, particularly in the 21st century. The environmental movement is often referred to as the most pressing measure for companies to disclose their activities (Tilt, 1994). According to Tilt (1994) these are just generalised assumptions. However, in the recent decades these assumptions have become a reality. Studies done in the last few decades use that assumption from 1994 as a factuality. Especially after the Paris Agreement was adopted, which is a binding agreement to mitigate emissions, corporations have felt an ever-growing pressure to disclose their ESG activities from different stakeholders as well as shareholders. Stakeholder and shareholder are presented and further explained through theory in chapter 3.2 and 3.3.

The pressure companies are facing can be divided into external and internal. Internal pressure can come from employees that are putting pressure on the management to make changes in the business, or shareowners demanding changes in the leadership. External pressure is from groups with interests in the company, for instance investors, costumers or individuals or groups in the society. The external pressure can force a company to disclose more information or become more transparent in order for them to maintain certain goods such as a good reputation between consumers and important investors. The external pressure can be understood as a company's motivation to disclose information. Liesen, Hoepner, Patten and Figge (2015) discusses to what extent external pressure from stakeholders influences companies GHG emission reporting. They find that companies disclose their GHG emission because of pressure from external stakeholder. At the same time, they comment upon the accountability or legitimacy of the reports because they are done voluntarily based on pressure with no template of what a complete GHG emission report should include or look like. Liesen et al., (2015) conclude their study by arguing that the completeness and legitimacy of the GHG reports would possibly become better with more disclosed information, reporting guidelines that aligns with more direct pressure and lastly a mandated disclosure regime. Their study is from 2015, which is not too long ago, however much has

happened since 2015. More guidelines and directives are developed recently trying to navigate a reporting/disclosure regime that can fit the ever-growing reporting demand from stakeholders. Companies are often demanded/pressured to (voluntarily) disclose more information than just GHG emissions. Investors and society at large want to know how sustainable a company is, and the most efficient way to obtain that information is for a company to report more factors than just their GHG emission data.

#### 2.2.4 ESG reporting

ESG reporting has until recently, not been standardised, nor mandatory, but since more stakeholder groups such as investors have been demanding insight into companies' environment, social and governance, many companies have been doing it voluntarily (Krueger et.al., 2021; Chen, et al.,2018)

Investors can be seen as the number one driving force for making ESG reporting important. They rely on information from the reports to make “smart” investments. Previously the ESG reporting was recognized as “nice to have”. The investors did not demand insight in a company's sustainability in recent years. Now, disclosure of ESG information is considered to be “must-have” for the investors and society at large. However, ESG reporting is not universally mandatory, and it can be difficult for investors to make well-informed decisions because of the lack of standardised reporting (Krueger et al, 2021; Nelson 2021)

In 2021 the European Corporate Governance Institute (ECGI) conducted a study on how mandatory ESG disclosure would impact the quality and availability of ESG reporting (Nelson, 2021). Mandatory ESG disclosure was introduced in 29 countries round the world and tested multiple different hypotheses in the time period of 2000-2017. The purpose of mandatory ESG disclosure is to force companies to properly report and enhance the supply of ESG information. However, one of the issues the ECGI study discloses is how the companies choose to do their reporting differently. Some companies have experience on high quality reporting from when it was done voluntarily, and other companies have chosen to follow the guideline loosely and only provide superficial information. In other words, the habits/history of the company's ESG reporting when it was done voluntarily affects how they continue to report after it became mandatory. The reason it differs so much in quality, even though it is made mandatory, is that there is a lack of standards and regulations on what information that



needs to be disclosed (Krueger, et al. 2021). However, guidelines and suggested standards do exist.

### 2.2.5 GHG Protocol

The GHG protocol is a framework for corporations that provides standards, guidance, and training about reporting of GHG emissions that is aligned with the global goal of the Paris Agreement. Accordingly, in 2016 is 92% of the Fortune 500 companies, known as the 500 largest companies in the US, used the standards and guidance from the GHG protocol indirectly or directly. The GHG protocol was first established in 1998 by the World Resource Institute (WRI) and World Business Council for Sustainable Development (WBCSD). They recognized the need for a framework on corporate GHG accounting and created standardised measurements for GHG emissions. The first corporate standards were published in 2001 and has regularly been updated through the years with renewed guidelines and calculation tools to transform the numbers from corporations into standardised calculations (GHG Protocol, 2022).

The GHG protocol has made it possible for corporations to sort their emissions by reporting it in different scopes. The protocol has defined and standardised the scopes based on direct or indirect emissions. Accordingly, if the entity reporting GHG emission from sources they own or control it is seen as direct GHG emissions. Contrary, is the indirect GHG emissions which are considered as the consequences of activity by the reporting entity. These emissions occur from sources owned or controlled by another entity. Furthermore, the GHG protocol has categorised the direct and indirect emission and divided them into three different scopes (Buckley, 2013; Global Climate Initiative, 2022). Scope 1 is recognized as all direct GHG emissions, scope 2 covers all indirect GHG emissions from consumption of purchased electricity, heat, or steam, whilst scope 3 covers the other indirect emissions that scope 2 do not cover (such as the extraction and production of purchased materials and fuels, transport-related activities in vehicle not owned or controlled by the reporting entity, electricity-related activities, outsourced activities, and waste disposal.). The scope 3 emissions are often poorly optimised, and the measurements are difficult, but they have the most potential for easy reduction, therefore it is very important that they are analysed and measured precisely (Global Climate Initiative, 2022).

One of the main goals of disclosing GHG emissions is to get clear data on how much impact a company actually has on the environment (Kauffmann, Less and Teichmann, 2012). When the information about impact is obtained it is easier for the company to adjust their business to mitigate their emissions. Also, the stakeholders can put direct pressure on the part of the business that needs to be adjusted in order to mitigate emissions (Kauffmann et al, 2012).

Although the GHG protocol and GRI have standardised indicators and scopes, the actual reporting is still not standardised nor mandatory in many countries. However, the EU has made a law for companies to report ESG information. In other words, it is mandatory for companies in the EU to disclose their ESG activities (Directive 2014/95/EU).

#### 2.2.6 Non-Financial Reporting Directive

Non-Financial Reporting Directive (NFRD) was established to make companies that meet certain requirements to report their sustainability activities. The aim of the NFRD is to make the EU's economy more sustainable. The NFRD law does not apply to all companies in the EU. Only large-scale companies with public interests and 500 employees or more are obligated to report their ESG activities/information. Accordingly, this makes up approximately 11 000 companies within the EU (Directive 2014/95/EU).

The required companies should - based on the supplement published by the NFRD - report environmental matters, social matters and treatment of employees, respect for human rights, anti-corruption and bribery and diversity on company boards (in terms of age, gender, education, and professional background) (Directive 2014/95/EU).

The supplement for should be read and used as guidelines by the relevant companies, when they report sustainability related information (European Commission, 2019). The guidelines are non-binding and recognise the necessity of a flexible approach because NFRD claim that the best practice and methodology for disclosing climate information is evolving fast.

Therefore, the guidelines from the NFRD encourage companies to continuously innovate and improve their climate-related reporting as well as being up to date with the scientific evidence (European Commission, 2019).

Although the NFRD has made reporting for large-scale companies' mandatory, their guidelines and how the corporations should report their information, are just guidelines. Because they are guidelines and not legal regulation (legislations) they are flexible, and it is

up to each company to decide how they want to use them. This specifically can create inconsistent reporting for competing companies or companies within the same sector. Which further can make it challenging for stakeholders to compare similar or competing companies to each other, thus choose the better company (Baumüller and Grbenic, 2021; European Commission, 2019).

Moreover, the NFRD has over the past years managed to make companies in the EU sustainability activities more transparent, which further lead the directive to become a core element for the EU to make the finance sustainable. However, the scope and content of the guidelines and requirements, provided by the NFRD, has been criticised for being inadequate in terms of keeping up with the regulatory development (Baumüller and Grbenic, 2021). Based on the criticism the EU Commission recently suggested a new and improved reporting directive.

#### 2.2.7 Corporate Sustainability Reporting Directive

A lot of companies fall outside of the NFRD requirement and do not align their ESG reporting to the EU requirement. The required factors to report are Environmental matters, social matters and treatment of employees, respect for human rights, anti-corruption and bribery, diversity on company boards (in terms of age, gender, education, and professional background) (Directive 2014/95/EU; Baumüller and Grbenic, 2021). Because of these indicators and requirements, they do not apply to the majority of the companies in the EU. Therefore in 2021 a new directive was proposed by the EU Commission and later adopted, called the Corporate Sustainability Reporting Directive (CSRD) (FISMA, 2021). The new directive will extend the requirement of companies that have to report the emissions from entities with public interest and over 500 employees, to all large companies as well as all companies that are listed on the regulated market (except micro-enterprises). Additionally, it is aligned with the European Green Deal and the Platform for sustainable finance which ought to make the European economy carbon neutral within 2050 (Arvidsson and Dumay, 2021). Additional requirements that are proposed to be included in the new CSRD is, adjusted or assurance of reported information, more detailed reporting and the reporting must be done according to mandatory EU sustainability reporting standards, companies also have to “tag” the reported information to make it machine readable and to make it deed into the European single access point envisaged in the capital markets union action plan.

In Arvidsson and Dumay`s study from 2021, they discuss how the new EU reporting directive, CSRD, focuses more on the information quality of the ESG reports, rather than promoting better ESG performance. This can result in companies doing more business as usual and not actually mitigating their emissions but deliver good quality reports instead.

### 2.2.8 Trustworthy ESG reports

In a study conducted by Liu, Wu, Wu, Fu, and Huang (2020) a discussion about difficulties towards generating a trustworthy and good quality ESG report is done. In their paper they argue that consistency and transparency are key elements for making an ESG report trustable for stakeholders. Furthermore, they divide the ESG reporting process into three different stages: 1) Preparation of the reporting, 2) generation of the report and 3) publication of the report. The first stage of the process is the preparation and authentication of the raw data. The raw data is usually collected by the company itself and what they include varies, cf. the three different scopes provided by the GHG protocol. The raw data is then sent to an ESG working group. They write the report based on the data, as well as other factors such as stakeholders` engagement and ESG standards. Lastly, in the third stage the ESG report is being publicised and sent out; usually to relevant stakeholders and the society at large. The challenge in this last stage is transparency. The company could, for instance, choose to expose less information in the publicised report to hide aspects that can shed a negative light on the company. Liu et al., (2020) continue to explain that companies can choose to hide information due to the lack of consistency in what an ESG report must include. Accordingly, Liu et al., (2020) sum up their study simply by explaining that ESG reporting faces three main challenges: authentication, consistency, and transparency.

## 2.3 Main Takeaways

The main takeaways from this background/literature review are firstly how ESG reporting is a much-discussed topic when it comes to corporate impact on the environment and sustainability. EIA has been a tool for corporations to understand their environmental impact for many decades. However, the way I see it after this literature review, ESG reporting is allegedly of more interest from the different stakeholders, especially the investors. Hence, of more interest in corporations.

Most of the sources used in this literature review are commenting upon many of the same challenges when it comes to reporting ESG information. The recurring challenges are a lack of comparability and difference in information disclosed, which makes it difficult to authenticate the reports. Because of the missing mandatory and standardised guidelines, the companies can choose how they report. This can create challenges in terms of the accountability and quality of the information included in the reports, as well as the transparency.

A part of this thesis aim is to see how reporting software can be a positive contribution to (some of) the challenges that are presented above. I have not been able to find relevant literature on how reporting software can influence ESG reporting. This can, as I see it, be understood as a possible gap in the existing literature that is interesting to discuss and shed a light on.

### 3 Theory

The following theories will be helpful to give a clear understanding to the different responsibilities and relationships companies have with various groups in the society. The aim of this chapter is to build a theoretical foundation for the reader before additional data is disclosed. A brief explanation of the theories relevance is disclosed before each theory is presented more in-depth.

The temperature is rising, and the climate is experiencing changes that is threatening to our future generations. Human activities are responsible for these dramatic changes towards the climate. The paradox is that there are no other species than humans who are able to prevent the changes from happening. Therefore, countries and other groups of the society have in the recent years started to adapt their way of living to reduce their impact on the environment. The corporate world is no exception, which is why is the thesis is engaging with corporate social responsibility (CSR) (Arena, Bozzolan and Michelon, 2014). The CSR approach together with the accountability theory is helpful to understand how companies in the corporate world a responsibility to the society have to become more sustainable. In other words, the corporate world is accountable to society to act responsibly towards the society at large, but more importantly towards the environment. By disclosure their activities and impact on the environment companies can be held accountable for their actions.

The goal by disclosing environmental activities as well as social and governmental information and including the information in an annual report is to give the participants in the society an overview of how the companies is contributing to or impacting the environment. A company's annual report was initially solely a financial report published every year for the public to see the company's total revenue and financial state. The report contributes to the financial market as well as the society at large perceived notions of the company (Nelson, 2021; Lokuwaduge and Heenetigala, 2016; de la Cuesta and Valor, 2013). Today, the annual report contributes to the same fields in the society, but new attributions have been added to the report such as environmental information. This is why this thesis is using accountability theory

Additionally, transparency in the corporate world has become increasingly important, and access to more information has contributed to new standards in corporate reporting. By a company disclosing more information about their activities, they are able to gain positive

repose which further can be used as self-promoting to gain investors and legitimacy from different groups in the society (Arena, et al., 2014). Thus, stakeholder theory as well as shareholder theory will provide the theoretical basis to study and discuss the actors that are involved in companies environmental reporting through a reporting software.

The new attributions the companies are including in their annual reports are mostly done voluntarily. Inclusion of voluntary information is a way of communicating specific signals to the public as well as to inform or persuade the readers of the management's views on the society and environment, as well as respond to negative pressure from the public. It can also be used to correct or confirm (mis)perceptions the public may have about a company's environmental activities (Amernic, 1992; Salancik and Meindl, 1984; Deegan et al., 2000; Frost and Wilmshurt, 1998; Gibson and O'Donovan, 2000) . Lindblom (1994) and Patten (2005) suggest that companies tend to report environmental data as a tool of legitimation which is why the legitimacy theory is one of the relevant theories in this chapter.

### 3.1 Corporate Social Responsibility and Accountability Theory

Corporate social responsibility (CSR) is commonly explained as the voluntary actions done by companies that further leads to social good. The CSR action can be described to be “above and beyond” the required laws and regulations. After a company has managed to define what their good activities contribute internally and externally, they can interpret them into strategic benefits (Xiao and Park,2021).

Today, CSR is accordingly seen as an important tool for marketers, managers, and top management, however some criticism addresses the factuality that this concept is relatively new. Xiao and Park (2021) state that only recently have scholars started to give CSR extended attention, which means that a lot of the new studies on the concept are not rooted in theoretical basis. Despite that, previous and related studies tend to use stakeholder theory, among others and that will be the basis of this study as well.

Since CSR reporting with the focus on disclosing environmental social and governmental activities is relatively new, question about why companies are determined to disclose information that is not related to their financial metrics have been asked by scholars (De la Cuesta and Valor Since, 2013). One of the answers to such a question is, accountability.

Accountability theory is based on the right of the stakeholders to require information (Gray, 2001). Accordingly, accountability can be explained in three steps. Firstly, one must identify the responsibility, next the information about the responsibility must be collected and lastly the information must be provided to those who have rights to the applicable information (Gray, Owen and Adams, 1996).

Gray (2001) stated already in 2001 that it was important that social and environmental accounting no longer was left voluntarily, and he suggested it should be implemented in corporate convention, custom and law.

The CSR theory is criticised to be controversial, complex, and unclear (Garriga and Melé, 2004). Since CSR (ESG) reporting is not mandatory for companies it can be seen as conflicting with accountability theory because it is not necessarily transparent. Transparency and mandatories are the first steps towards a company's accountability. In CSR reporting there are not much mandatory regulations, yet. According to accountability theory, the CSR reports should answer both explicit and implicit questions about the corporate operation and the possible consequences, asked by the stakeholders. Therefore, accountability theory can be helpful for CSR theory to become less complex and unclear (Garriga and Melé, 2004). In that way CSR reports can help stakeholders hold companies accountable for both their actions and the potential consequences. Even though the CSR can hold a company accountable, the quality of the reports, often described as quality standards, have to be disclosed by the regulators and adopted by the companies. The quality of the reports will determine the accountability of the report. Furthermore, that accountability will translate over to the company, and the stakeholders can further compare the accountability towards another competing company (de la Cuesta and Valor, 2013).

### 3.2 The Stakeholder Theory

Stakeholders are participants or influencers in a company's decision making. Accordingly, the stakeholders are closely connected to sustainability as a concept as well as companies' definition of sustainability (Searcy, 2014). Tracking and reporting GHG emissions is a concrete corporate social responsibility measure a company can use to show their stakeholders how they are contributing to mitigate climate change.



Accordingly, there are hundreds of different definitions and suggestions published that try to define what a stakeholder is (Miles, 2012). Mainardes, Alves and Raposo (2011) points at the fact that there has never been a consensus on any definition in the academic circles, which has contributed to many papers adopting the term without providing any clear explanation it. After reading through multiple different definitions and explanations of the term, this thesis will proceed to use the explanation given by Littau, Jujagiri and Adlbrecht (2010). Littau et al. (2010) has divided the stakeholder definition into three parts. The first one is characterized as a group with “interest- or stake-in”, second one as an “affect or affected by”- group and the third one being a hybrid of the first and second group. The reason this definition is chosen is because it does not exclude any possible stakeholder groups. Moreover, the definition includes internal as well as external stakeholder groups. Examples of a company's possible stakeholders, based on Littau et al. (2010) definition is herefore, investors, employees, government, customers, suppliers, consumers, and society at large.

Investors, employees, government, customers, suppliers, and consumers are considered to be a company's primary stakeholders. The primary stakeholders are explained as “those groups a company depends on for its survival and continued success” (Hult, Mena, Ferrell and Ferrell., 2011: 49). These groups all have resources that a company is dependent on in order to function. Hence, companies must interact and have a relationship with the groups that regulate these resources. Employees contribute with labour, suppliers with materials and expertise, investors with investment and money, customers supply the firm with sales revenue, and government with taxes and other policy regulations. The critical nature of these resources makes companies dependent on the stakeholders, ultimately giving the primary stakeholders a lot of power (Hult et al., 2011).

“Society at large” is a broad term, but also falls under the definition of a stakeholder. However, the term does not only include only one, but several groups in a society. Hult et al. (2011) explains that “society at large” includes the secondary stakeholders, such as the mass media, special interests’ groups, and competitors. These groups are definitely stakeholders but their importance for a company can vary a lot in contrast to the other groups, such as investors, employees and customers. However, the secondary stakeholders can, in some instances, have more power than the primary stakeholders. The secondary stakeholders have the power to mobilize public opinion in favour of or against a company’s practice. In other words, they have the power to be everything from collaborative to confrontational. For instance, if the media publishes proof of misconduct within a company, the primary

stakeholders can lose trust and belief towards in the company and stop supplying them with resources. Competitors are another important stakeholder, and Hult et al (2011) describes them as the main secondary stakeholder. Competitors often work together by sharing supply chains or to develop standards that constitute unacceptable and acceptable morals. Also, competitors within the same sector use each other as guidance and examples when developing strategies and relationships with primary stakeholders. For instance, if a company starts to report all of their GHG emissions and none of their competitors do, the stakeholders may favour that company rather than its competitors. This will signal to the competing companies that they should change their strategy accordingly.

The broad aim of the stakeholder theories is to function as a framework that can be used to understand and study how different stakeholders affect or are affected by corporations. According to Freeman (1984), every company must actively deal with multiple constituents other than shareholders. These constituent groups are considered to be stakeholders. Freeman (1984) further explains how these relationships need to be analysed to understand contemporary business practice. Accordingly, a manager would not prioritise stakeholders that cannot contribute or show all of these three attributes; power, legitimacy and urgency because it can determine their relevance to the company (Mitchell, Agle and Wood, 1997). Each stakeholder will have different demands and interest, making it difficult for a company to meet all of them. There can be multiple factors that explain why a company is not able to fulfil all their stakeholders demands. Firstly, it is in some cases hard to identify each stakeholder's demands. Secondly, the stakeholders' influence and importance towards a company must be assessed. According to Hult, et al., (2011) this is one of the key questions in stakeholder theory. "Stakeholder theory intends to address the key question, which groups are stakeholders deserving or requiring management attention, and which are not?" (Hult, et al., 2011: 48).

The reputation and trust a company get from their stakeholders are two of the most important factors for a company's development. The responsibility a company has towards its stakeholder is therefore, in most cases, larger than the responsibility the stakeholders have towards a company. Despite the responsibility there is no doubt that there is huge value in the relationships between primary and secondary stakeholders. The contractual relationship between them is an important and valuable field for co-creation and societal development (Hult, et al., 2011).

Although stakeholder theory is well known and used by many, there are some critiques that are worth mentioning. According to Miles (2017), “Stakeholder theory is not a single theory per se but an amalgamation of eclectic narratives” (Miles, 2017: 437). She states that most of the stakeholder theories that exist are from a management literature point of view, which means that the majority of the theories come from an unbalanced perspective. Miles (2017) further explains that the unbalance in the stakeholder theories therefore may come with some limitations, as some relevant voices may be underrepresented. Theories and frameworks are never fully applicable, which is a limitation in itself. However, this thesis is looking, from a corporate or management point of view, but it is important to be aware of the possible weaknesses and limitations that Miles (2017) discuss. Nevertheless, a company have responsibilities internally towards a company’s owner. The conflicting interest of a stakeholder and the owner of a company is important to address to further understand why a company performs like it does.

### 3.3 The Shareholder Theory

To better understand a company's responsibilities, their dependent relationships must be presented. This knowledge can be used as an important tool to help disclose, or at least discuss, the motivation behind a company's actions in the discussion part of this thesis. After explaining the stakeholder theory, knowledge about a company's responsibility to maintain valuable resources is obtained. However, the stakeholder theory does not explain a company's contractual responsibility or relationship to its owners.

Firstly, the question about who owns a company must be answered. To answer this, common agency theory is often used. According to Fontrodona and Sison (2006), there are different goals and interests spread between the individuals that are involved in an agency relationship. The shareholders are seen as the people that have capital in a company, and therefore seen as the owners. Accordingly, the managers in a company function as agents of the shareholders that primarily work to maximize the company's value. The shareholders have financial interests, and it has, traditionally, been the manager's responsibility to work accordingly to satisfy those interests.

Typically, individuals are described as opportunistic in agency theory. This description can be used to explain why individuals always aim to maximize their own interest. The opportunistic behaviour can create constant temptations which further can lead to individuals choosing their

own interests at the expense of principal. This can be adopted to the assumption that shareholders act in accordance with the criterion of utility maximization (Fontrodona and Sison, 2006)

Thus, the shareholders aim is to maximize own (financial) interests by owning capital in a company, the theory also acknowledges the importance of stakeholders. Traditionally, shareholder theory has focused on the legal and implied contract between the shareholder and company, whereas stakeholder theory presents a broader definition which includes social morals, in addition to legal and implied contracts. However, after the society at large changed its focus towards being more inclusive of social and environmental investments/factors rather than just financial, so has the shareholder theory. Accordingly, the shareholder theory does, in its recent manifestations, acknowledge the concept of instrumental stakeholding, and sees this in similarity to stakeholders' power to contribute or prevent the achievement of the company's goals (Moore, 1999). Moore (1999) continues to explain how the shareholders should not treat the stakeholders as means but should see them as participants in establishing the company's future direction. Also, the shareholders have little to nothing to do with the actual company compared to the stakeholders that are actively/directly contributing to the company's development. If a company is a "nexus of contract", owning capital can't be seen as owning the firm. The reason is because there can only be owners of the various production factors (Moore, 1999; Fontrodona and Sison, 2006).

Lastly, the answer to the question of "who owns the company?" seems to be the people with capital in the company, known as the shareholders. However, the value of the word "owning" seems to be decreasing, since the stakeholders have a more active "hands on" role in the company compared to the shareholder. Also, acknowledgment of the stakeholders importance for the shareholder contributes to that. The stakeholders' demands are affected by the morals in the society, compared to shareholders that want to gain or remain legitimacy for their company through acting a certain way or by focusing on legal and financial aspects.

### 3.4 The Legitimacy Theory

Legitimacy theory is - in addition to the stakeholder theory - also analysed from a managerial perspective. The theory portrays different strategies managers can choose to either gain legitimacy or remain legitimate (Deegan, Rankin and Voght 2000; Patten, 1992). Legitimacy

is defined by Schuman (1995) as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Schuman 1995, p:574). In other words, legitimacy is based upon societies (incl. stakeholders) acceptance of a company's actions.

Paul Hawken claimed in 1993 that businesses was destroying the world. He emphasized that the corporation's primary assignment was to make shareholders financially content. Today, companies have to satisfy a broad spectrum of stakeholders with interests far beyond finance. Elkington and Rowlands argued already in 1999 that there would be three key elements that would define the business imperative of the 21st century. The three elements they referred to was social justice, economic prosperity, and environmental quality. These elements are better known as the “triple bottom line” (Elkington and Rowlands, 1999).

Insight into the elements of the triple bottom line can be used as a tool for the stakeholders to get an idea of a company's sustainability. Furthermore, a company's sustainability is today much associated with a company's legitimacy. However, if a company chooses to change their activities or strategies, it is generally accepted that they have to disclose and unfold those changes. Accordingly, if the company don does not inform their stakeholders and audience correctly, uncertainty will appear regarding what the company is trying to achieve with the changes which, furthermore, can lead to issues with their legitimacy (Deegan, 2000; Cormier and Gordon, 2001)

Also, legitimacy can be achieved through different purposes. Schuman (1995) discusses how a corporation chooses their public legitimating tactics and disclosures based on if they are trying to gain, maintain or repair their legitimacy. The tactics behind each purpose (gain, maintain or repair) must be known for a corporation to continue to have legitimacy. Because a corporation's legitimacy status is based upon social perceptions it will change over time which can make it difficult to establish a company's legitimacy status (Schuman, 1995).

The purpose of gaining legitimacy can become relevant when a company chooses to change activity or strategy. Firstly, it is important for the company to gain legitimacy in the field with new, in addition to the already involved, stakeholders. Secondly, when a company changes activities it's important for the existing leaders to gain trust and validity internally. This process is known as “liability of newness” which is recognized to be difficult to achieve because it can create uncertainty and the company has to gain verification both externally and

internally. Whereas, maintaining legitimacy is considered to be easier. Accordingly, when legitimacy first is gained it tends to be taken for granted and reassessment of legitimacy can be forgotten. However, if the company does not keep up with the evolving social and societal expectations that changes over time, its legitimacy can devolve. The most important factor to maintain legitimacy is to be up to date with the (social) stakeholders' expectations (Ashforth and Gibbs, 1990). Additionally, Suchman (1995) states that a company should always observe changes, and sometimes even anticipate the changes that are coming in order to be prepared to maintain their legitimacy.

Lastly, in an evolving crisis, or when/after a crisis occurs, companies have to repair their legitimacy. This can be done by using proactive strategies if a crisis is evolving, or reactive strategies if the crisis occurred unforeseen (Ashforth and Gibbs, 1990; Elsbach and Sutton, 1992).

All of the factors mentioned above can play a contributory factor to a company's legitimacy. Deegan (2002) claims that legitimacy theory has been used as a theoretical basis in reports concerning social and environmental data. However, it is important to state that the legitimacy theory does not yield any instructions on what a company ought to or should do in order to obtain legitimacy. Thus, the theory should be seen as a possible explanation or clarification on why certain companies choose to disclose social and environmental information, voluntarily (Deegan, 2014).

### 3.5 Summary

The theories presented above is giving a boarder understanding to how the different actors in a society are related to one and other. By addressing the stakeholder and shareholder theory it is becomes clear that the stakeholders have more power towards a company than what the shareholders may have. Employees in a company are demanding more insight into the business and more transparency from the shareholders. Thus, investor is demanding the same insight, externally. Through this pressure companies are experiencing a need to address their sustainability. By doing that companies can be held accountable for their actions.

Therefore, reporting and disclosing environmental activities as well as social and governance information (ESG reporting) has activities has become important for especially stakeholders, to understand and determine how sustainable a company is. However, most of the information stakeholders are demanding have to be reported voluntarily by the companies. Moreover, the

legitimacy theory explains the social contract between a company, its stakeholders, and the society the company operates in. Legitimacy is important for a company towards competing companies as well as to maintain good reputation among relevant stakeholders. If a company voluntarily reports or discloses information about their business environmental activities, the possibility of them gaining legitimacy is prominent.

## 4 Methodology

The main purpose of this chapter is to explain the research process for the thesis. This is done by clarifying why certain methodological choices were made and how these decisions may have influenced the quality of the research. In addition, an assessment of the collected data and ethical aspects will be presented. At the end of this chapter, it should be clear why these methodological choices are the best for the problem statement and further research questions of this thesis.

### 4.1 Research Method

The research method conducted in this thesis is a case study. The case study method allows the researcher to research phenomena as they occur without any significant interference. Accordingly, the case study method attempts to achieve a comprehensive understanding of the studied phenomena and at the same time develop more general theoretical statements about the phenomena's regularities (Fidel, 1984).

Fidel (1984) presents different scenarios for when the case study method is the most appropriate research method: "1) a large variety of factors and relationships are included, 2) no basic laws exist to determine which factors and relationships are important, 3) when the factors and relationships can be directly observed" (Fidel 1984: 273). This thesis can be discussed as using a combination of all the different scenarios. Firstly, the main focus of the problem statement of this thesis is the lack of laws and universal regulations that determine the most important factors and relationships. This thesis will also, directly study the Synergi Life software and companies that use the software. Lastly, since there are not enough interviews conducted to apply the term "large variety" the first scenario may not be fully applicable to this study. The relationships between the informants vary a lot, this also includes the other empirical data that is collected/conducted for this thesis.

Furthermore, the case study method is usually seen as flexible since the studies don't have to be rigorously planned. This leaves the researcher an opportunity to adapt research strategy when new information and unexpected findings occur as the study evolves. In addition to the collected data, the case study method makes it possible to supply with direct observations, interviews, or documents, based on the nature of the problem statement/subject matter. The data are being analysed throughout the study. This allows for the problems and hypotheses to



be guided by the concrete discoveries of the study which further can reveal relevant and interesting aspects (Fidel, 1984: 275).

## 4.2 Research Design

Research design is seen as a description of the choices the researcher makes throughout the research process. The research design also allows the researcher to communicate and explain why certain choices were made (Blaikie, 2010).

This research was written between January and June 2022. A problem statement can be understood as the distance between what we know and what we want to know (Grønmo, 2016, p.443). Hence, data must be collected. Data can be quantitative, qualitative, or a combination of both. Qualitative data is the empirical foundation for this thesis, because qualitative studies are aimed to go in-depth on a social phenomenon to further develop a broader understanding of the phenomenon. In comparison to quantitative data which has more participants and is less in-depth than qualitative data (Grønmo, 2016, s. 295). The data is collected through both documents and interviews. There are no statistical techniques to analyse the data conducted through a qualitative data collection method. Moreover, there are general strategies that help sort the data which will be used in this thesis.

This case study calls into question the missing standards and rules that cause issues in corporate environmental reporting. Through different documents and theories, the constantly increasing importance of emission reporting is displayed. A software called Synergi Life is further presented as an example of how reporting is done and how it contributes to the visualization of a company's environmental reporting.

To understand what type of regulations that already exist on the topic, corporate environmental reporting, many reports, and studies from different actors, both internationally and nationally, have been discussed. One of the interviews has also contributed to this part of the empirical data.

Additionally, first-hand knowledge and insight about companies reporting habits were conducted through interviews. Some of the interviews have also been used to understand how a software like Synergi Life can contribute to the reporting of environmental data, such as GHG emissions. Through my network in DNV, I was provided information about relevant

companies that could be interviewed for this thesis. The interviews were done between March and April. The extensive research process is presented in the table below.

**Table 1: Research process**

<b>Time Period</b>	<b>What was done</b>	<b>Purpose</b>	<b>Result</b>
<b>January</b>	The problem this thesis was studying was structured and put into context with already existing studies as well as an understanding of what was needed (empirical data) to provide an answer to the problem statement	The purpose was to try to understand the goal and limitations of the thesis. As well as compare it to other similar studies and understand the thesis “needs”.	Got in touch with my supervisor who helped me scale the thesis down and sort my first thoughts.
<b>February</b>	Was provided a list of the potential informants through my network in DNV. Got access to relevant documents explaining the Synergi Life Software.	The goal was to see how many informants I could potentially get and see the scope of the task more accurately	Sat down and read the document about Synergi Life to understand how it could be interpreted in the thesis.
<b>March</b>	Contacted the informants and made an interview guide. Applied to NSD to have my interviews accepted. Got it accepted two weeks later and had my first interview shortly after. Transcribed the first interview.	Get a head start with my interviews to see if my interview guide was sufficient	Made adjustments to some of the formulations before the first interview and added a few follow-up questions to the interview guide.
<b>April</b>	A lot of reading as well as the remaining interviews were done. Two of the interviews were transcribed. I started to formulate the introduction and background part of my thesis.	The purpose was to get a better understanding of what direction this thesis was going.	My supervisor let me know that I had transcribed the first interview incorrectly, so I had to re-do it.
<b>May</b>	My last two interviews were	I had been writing	The result of this

<b>Time Period</b>	<b>What was done</b>	<b>Purpose</b>	<b>Result</b>
	transcribed. Most of the text was structured and written out.	down a lot in the previous months of what I wanted to include in my thesis, but I did not structure it until May.	process was uncertainty. Since none of the material I had collected was structured it created some chaos and I lost track of where my thesis was going. After my last interview I got the track of my thesis back again.
<b>June</b>	Read through and finalized the thesis.	The purpose was to be able to submit the thesis on June 15th.	I got everything down on paper and helped with reading through my language.

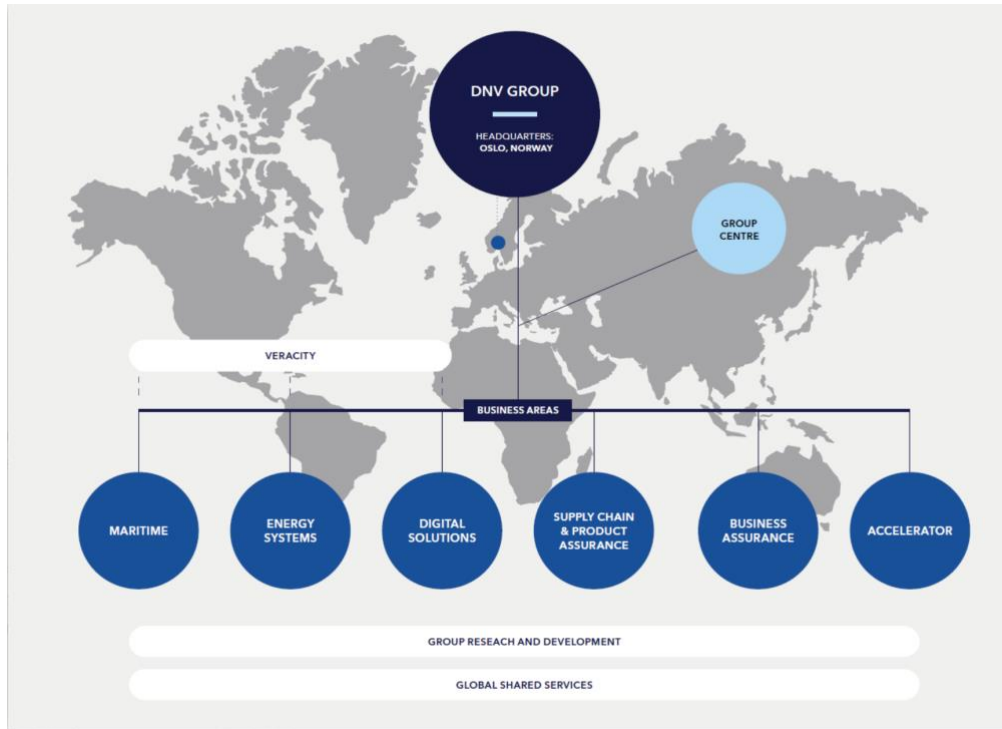
#### 4.2.1 DNV

Since Synergi Life is directly being studied in this thesis an introduction of the owning and operating company and the software itself software is needed. I will also give a brief assessment explaining why this software was chosen to be studied.

DNV (Det Norske Veritas) was established in Oslo in 1864 and is an independent expert in assurance and risk management. According to their website, the initial purpose of the company was, and still is, to “safeguard life, property and the environment” (DNV, 2022). DNV’s focus on tackling global transformations has made the company a trusted voice for many of the world's largest organizations. One of the company's core values is to share their knowledge and experience through collaborations with different customers all over the world. DNV operates in 100 different countries with more than 300 offices, and their headquarters are in Oslo, Norway (DNV, 2022) The company consists of different business areas including maritime, energy systems, digital solutions, supply chain and product assurance, business assurance and accelerator, as shown in figure 1. Accordingly, DNV is a “world leading company within digital solutions, especially for managing risk, improving safety and asset performance for ships, pipelines processing plants, electrical grids and others” (DNV, 2022). Their software solutions support different business-critical activities among different

industries such as maritime, healthcare and energy. One of their software solutions is called Synergi Life (DNV, 2022).

**Figure 1:** DNV's organization structure (DNV, 2022)



Synergi Life is a well-established reporting software that companies across sectors use to report different information. The software is divided into different modules that allows companies to report on different matters such as HSE incidents, environmental management, and risk data among multiple other. A more in-depth explanation of how it works will be provided in the results in chapter 5.1. The reason this particular software was chosen to be studied is because of my job. I work part time at DNV close with Synergi Life. Through my colleagues I have been made aware that the sales of the environmental management module have increased a lot over the recent years. I found that knowledge interesting and wanted to investigate it further.

### 4.3 Research Strategy

Gray (2004) explains how there are different scientific approaches when collecting data. The empirical data that is collected and presented in this study is not collected to test an already existing theory, known as a deductive approach (deduction). Contrary, this thesis is collecting

relevant facts and data and uses that knowledge to create a theory, known as an inductive approach (induction) (Blaikie, 2010; Gray 2004).

From an induction approach, the data is collected and analysed to see if there are any emerging patterns. The researcher is looking for patterns between variables which further can lead to the construction of relationships and in some cases even theory. It is important that the researcher is not moving to any hasty conclusion. To establish some degree of reliability in the study, the researcher should take multiple cases into consideration when finalizing the conclusion, instead of biasing the conclusion on only one case (Gray, 2004, p 6). However, induction and deduction are not mutually exclusive. In some cases, it can be discussed if the research is using both induction and deduction. In this study the inductive method is used by collecting data and discover a similar pattern.

#### 4.4 Data Collection

The data collection was done with the intention of enlightening the theme and further investigating the aim of this thesis, from different perspectives. The data was collected from interviews and other secondary sources such as manual brochures. By doing interviews I was able to get first-hand data which is favourable when doing a case study (Blaikie, 2010). The individuals chosen for the interviews were specifically selected based on their expertise, role and/or profession. The individuals are therefore working as informants and will be kept anonymous throughout the thesis (Blaikie, 2010).

##### 4.4.1 The interviews

Five semi-structured interviews were conducted for this thesis. A few factors were considered while selecting the interview objects. The informant should include knowledge or expertise in environmental reporting as well as knowledge or expertise in the reporting software Synergi Life. Four of the five informants have expertise about Synergi Life, while the last has other useful experience as an investor. The interviews were carried out between March and April of 2022.

**Table 2:** *List of informants*

<b>Interviewees referred to in text</b>	<b>Title at workplace</b>	<b>Company/Sector</b>	<b>Date of interview</b>
<b>Informant A</b>	ESG manager	Investor	23.3.2022
<b>Informant B</b>	HSE manager	Painting production	31.3.2022
<b>Informant C</b>	Sustainability advisor,	Energy Sector	1.4.2022
<b>Informant D</b>	Environmental Analyst	Consulting company	27.4.2022
<b>Informant E</b>	Business developing manager	Consulting company	28.4.2022

The interview objects were all contacted by email. To get in contact with companies that use Synergi Life, and individuals who are familiar with the software, I used my network from my job at DNV. Informant A was recommended to me outside of my network at DNV, by a family member that is in the same business as the informant. Relying solely on informants that are connected, in this case through Synergi Life, can create biases. Therefore, it was important for me to have one person with a different perspective and no connection to DNV or Synergi Life. Also, since three of the companies are customers of DNV it was important for the validity of the thesis to state that the interviews were going to be held anonymously and that I was doing them as a private person and not on behalf of DNV. I believe that those factors were important to address to get an as open interview as possible and for the informants to not obscure or mask their answers. The contributing informants were all positive to take part in the research. Initially, I intended to conduct a few more interviews, but some of the people I contacted did not respond. However, that allowed me to have longer and more in-depth interviews with the informants, which I believe was beneficial for the timeframe as well as the scope of this thesis.

The first interview was done in Norwegian and Swedish, and the last interview was done in Norwegian. It was safer for all parties to have the interviews in local languages to minimize the risk of miscommunication. The three remaining interviews had to be done in English because of our different first languages. All the participants, except informant E, are in other countries or cities and the interviews were done digitally over Microsoft Teams. Informant E wanted to do the interview over Teams as well because it is less time-consuming. However,

the digital interviews and the interviews that were conducted in English can have affected the validity and the reliability of the data. The reason is that people sometimes find it harder to express themselves well in a second language such as English. It is harder to read the expressions, reactions, and body language of the individual you are interviewing via digital meetings, which might lead to misunderstandings. Due e to Covid-19 people are, seemingly, comfortable and used to having meetings digitally and it should not have affected the interviews significantly.

Semi-structured interviews are commonly used in qualitative research and are the chosen interview method for this thesis (Blaikie & Priest, 2019). In advance the informants were provided with an interview guide to prepare their answers and understand what I was researching. The original interview guide had to be changed and customized to two of the interviews because when I first made the interview guide, I had not gotten an approval that the informant E was willing to be interviewed. Also, informant A was supposed to provide the research with other information in comparison to the three remaining informants. Since the structure of the interviews are semi, the interview guide consisted of broad and open questions. This made it easier to get supplementary answers as well as leaving room for follow-up questions. Rapley (2004) described that a conversation on the same issue will provide different perspectives. After the first interview, I was able to put my interview guide to the test, and I saw that some of the questions needed to be changed or adjusted. Because the original formulation was unclear, I reformulated only a few of the broader questions. Also, this was natural since the first person I interviewed had another expertise than the rest. However, no adjustments were made to the three interviews that have the same expertise. In other words, three of the interviews followed a similar interview guide, which is implying that the data generated by the interviews is comparable. It was only the first and the last interview guides that had to be different and adjusted to fit their expertise.

The primary purpose of the interviews was to obtain information on the topic of this thesis. However, when collecting data through interviews, the interviewer should be aware of certain issues. Firstly, informants may wish to appear more qualified than they are to provide data on the topic. Rapley (2004) calls these “adequate interviewees”. Since an interview is a planned conversation, the informant can prepare and provide the interviewer with the answer they believe the interviewer wants or needs. Also, the interviewer needs to be aware of the informant shedding good light on their own work and exaggerates their professional or

personal achievements. Another risk is that the interviewer interprets the answers from the interview based on their prior knowledge (Alvesson, 2003). In other words, if the interview was done with another interviewer with different prior knowledge, beliefs, values, and preconceptions the data could be interpreted differently. Based on these risks, the validity and reliability of the data is important to consider and will be discussed later in this chapter.

#### 4.4.2 Analysing the data

As a researcher, you are supposed to extract and gather the most relevant findings from collected data. Not all of the raw material will be useful or relevant for the research and it must be analysed and processed. According to Grønmo (2016), there is no standardized method or techniques to analyse qualitative data. Each researcher can decide what technique works best for their research to extract as much relevant data. The goal is to generate the best result, regardless of what technique is used.

The first step in analysing data is to detect similar patterns in between the data collection. In this case, finding similarities between the interviews is easy since most of the interviews are based on the same interview guide. However, detecting differences between the interviews can also work as a tool to generate interesting findings and patterns (Grønmo, 2016). When sorting and analysing data from several different sources it can become overwhelming and difficult to keep an overview. Therefore, codes are typically used to sort and keep a systematic overview of the relevant data. The codes are usually keywords that describes a description of a larger paragraph or section of text. If a keyword can describe a theme, an actor, event, or relation it is categorized as a descriptive code (Grønmo, 2016).

By using descriptive codes Grønmo (2016) claims that unforeseen or surprising empirical situations can occur. However, it has been difficult for unforeseen phenomena to occur in this thesis because the codes that are chosen for analysis are based on the interview guide. Words such as environmental reporting, GHG emissions, Synergi Life, comparability, transparency, and requirements, are some of the chosen codes. By using these codes, the data will be categorized based on themes, which will create the empirical foundation when the research question of the thesis is being discussed.



#### 4.4.3 Document studies

The main method of data collection in this thesis is interviews. A few brochures or manuals were needed to supplement the interview where informant E explained how the software, Synergi Life, works.

Synergi Life is owned by DNV (Det Norske Veritas). Because of this the findings about Synergi Life, which has been studied in this research, is provided by DNV. In most cases, this would have a negative effect on the validity and reliability of the data. The reason is because DNV will be considered a biased source since they are the owner of the software. However, the two documents that are used in this thesis are brochures on how Synergi Life works. Therefore, I do not believe the source has a negative impact on the thesis, but rather positively since the owner of the software will, probably, be the source that knows the system best. With that being said, it is important to have discussed this aspect, to be transparent towards the reader.

**Table 3:** *Presentation of the studied documents*

<b>Cited in text</b>	<b>Title</b>	<b>Content</b>	<b>Owner</b>
<b>Synergi 1</b>	Synergi Life Brochure DS	A brochure that presents the whole software Synergi Life	DNV
<b>Synergi 2</b>	Synergi.com (accessed through DNV intranet)	Screenshots	DNV
<b>Synergi 3</b>	Environmental Management Module Version 16.27.0	A brochure that only presents the Environmental Management module	DNV

#### 4.5 Quality of the Study

As a researcher, it is important to be transparent and honest with the reader. The research method that is chosen for this thesis is based on what I believe is the best method. Therefore,

this subchapter will be arguing for the quality of the data by evaluating its strengths and weaknesses.

#### 4.5.1 Challenges in collection of data

The limitations of this thesis are important to mention. Firstly, the scope of this paper set certain limitations, such as the time frame. The time given to work on this thesis has scaled down the initial idea of the research. Also, the number of interviews that were able to conduct is also limited based on the given time frame. A lot of time goes into the search for relevant interview objects, to get in contact with them, developing a good interview guide, having the interview, and lastly transcribing and analysing the data. As mentioned, a few possible interview objects did not reply or want to participate. This limits the possible amount of first-hand data as well as other possible points of views that could be relevant to answer the problem of the thesis even better. It is important to acknowledge that this may have decreased the validity of the thesis, to some extent. However, the individuals that have been interviewed are all informants with first-hand experience and knowledge on the topic of this thesis. Furthermore, this speaks to the reliability of the chosen sources. Also, the documents that are used are also considered to be first-hand reliable sources. Also, the interviews that were done in Norwegian and Swedish have been transcribed in Norwegian but interpreted and written in English when used in this thesis. These statements can have been misinterpreted. Moreover, a few more interviews would have made the result of the data more representative. However, a more in-depth presentation of validity and reliability will be needed.

#### 4.5.2 Validity

The validity of a research is supposed to say something about credibility, and it depends on what and how you measure it. By accounting for personal biases and using and acknowledge biases in sampling has been done to ensure credibility (Noble and Smith, 2015). Maxwell (2013) claims that the interpretation of obtained data must be correct along with the explanation of it. This can be done by the researcher trying to actively falsify results and analyse findings from a critical point of view. Moreover, Maxwell (2013) addresses the fact that qualitative research is harder to validate. Accordingly, the two most inevitable threats to this research are, researchers' bias and reliability.

Firstly, the theories that are used in this thesis are not made to answer the research questions of the thesis. They are chosen, interpreted, and discussed in a subjective way to fit the thesis. Also, during the interviews, I as a researcher could have unconsciously controlled the interview to apply the research. This could have excluded possible unforeseen aspects or revelations that could have been an important contribution to the thesis. However, I have tried my best to ask open questions that simultaneously are concrete and contributes to the thesis. Also, I have allowed the informant to steer the interview as much as me to create an open conversation. Secondly, the reliability aspect of the thesis must be discussed.

#### 4.5.3 Reliability

Neuman (2014) describes reliability as dependability or consistency. Which in other words, means that if another researcher were doing the same procedure that has been done in this thesis, it should result in the same finding and conclusion (Yin, 2015). However, qualitative research is both considered to be dynamic and evolving which means that different researchers might use different methods which will lead to other results. Furthermore, this is a positive effect of the qualitative research method because it can create knowledge about a phenomena's different aspects (Neuman, 2014).

By documenting the choices made and all the steps in a research process will make it more possible that a researcher can come to the same findings and conclusion (Yin, 2015).

Transparency towards the reader has been a key factor for me as a researcher. Therefore, I have been documenting the procedure as best as possible. However, the informants that have been interviewed for this thesis are held anonymous. Although some information regarding their profession and sector or company's business is revealed, but it is not enough to figure out who the informants are. Also, misinterpretation of the interviews must be taken into account, especially the interviews that are done in Norwegian and Swedish. When the informant's points have been translated it can have lost its point or been interpreted wrongly by me. Also, the other interviews were done in English which was none of the informants first language. They can have felt it difficult to communicate their points clearly which can have led to me interpreting them wrongly as well. Therefore, the language barrier must be addressed and considered, because it could have created some errors in the interpretation of the data.

Grønmo (2016) claims that it is harder to determine the validity and reliability of qualitative studies. However, the transparency and methods of collecting data such as interviews and

document studies, provide the reader a good opportunity of determining the study's validity. The research process is also described, which allows another researcher to study and test some of the findings (difficult to test anonymous interviews) of the research which speaks for its validity and trustworthiness.

#### 4.5.4 Ethical assessment

The research and interview guide had been approved by the NSD (Norks Senter for Forskningsdata) in advance. In addition, the informants had to sign a statement of consent prior to the interviews. In the statement, the informant was notified about their rights, how to withdraw their participation, and how the information about them would be used. The informants were aware that they could choose to be completely anonymous by not disclosing any information about their position or company. It turned out that none of the informants had any issues with that information being disclosed, so the informants are partially anonymous. Each informant was interviewed individually and one hour was set aside for each interview. The informants agreed in advance that the interviews were being recorded and they were recorded through Microsoft Teams. Since only I had access to the recordings afterwards, I found this to be the most reliable method of storing the recordings. Also, every recording was password protected by Microsoft Authenticator. All these considerations points to the fact that the data and informants were treated ethically throughout the research process.

## 5 Results

In this chapter the empirical data that has been collected throughout the research process will be disclosed. Firstly, the software solution Synergi Life, will be presented to understand the history behind the software as well as how it works. This thesis is focusing on a specific part of the Synergi Life software called the Environmental management module. However, to make sense of that module, a general in-depth presentation of the software and how it works will be disclosed first - with support from one of the interviews. Further, the environmental management module will be presented with information from the latter interview. The remaining interviews and their experience with Synergi Life will be systematically presented. Firstly, reporting habits is disclosed before the company's motivation for reporting. Lastly, the issues related to companies' comparability is presented and possible solutions is discussed.

### 5.1 Synergi Life

Synergi Life is a software solution that specialises on quality, health, safety, and environment (QHSE) and enterprise risk management. The data shows that the software has an established history in the related market. For example, informant E explains how the foundation of Synergi Life was established already in the early 1990's as a HSE project for a large oil and gas company in Norway. According to the informant, the aim of the project was to make a large system for reporting and collecting HSE incidents and near misses. The project became bigger and expanded into a larger project with six other leading companies in Norway within the same (oil and gas) sector. The focus of the new project was to make a database that could be adapted to the six companies. According to informant E this was not as easy as they first thought,

“Initially Synergi Life was meant to be an experience database that employees offshore could report (unwanted) incidents that happened at work in the North Sea. However, when the database was launched the companies realised that they needed systems internally as well because they did not have a complete internal overview of the incidents. This further lead to the database developing to a system that could be implemented internally which is Synergi Life as we know it today.”

The six companies implemented Synergi Life and Synergi became an independent company that quickly started to sell their software to other companies. The informant says that “the following years we began to develop the software and upgrade its features so it could become relevant to companies outside of the oil and gas sector”. The company started to expand to other sectors and after DNV bought Synergi Life in 2011, the informant explains that the expansion process became easier because of access to a larger network as well as more financial measures. Today, Synergi Life is used by over 350 companies worldwide. It is mostly used by medium to large scale companies across different sector such as energy, healthcare, transport, local government, and construction (Synergi 1). The software is available as a Software-as-a-Service (SaaS) which gives the customer the advantage of utilizing cloud computing on the Microsoft Azure platform. The SaaS availability makes Synergi Life, time saving, to have low investment and maintenance costs, to focus on data security as well as it is flexible and scalable (Synergi 1).

#### 5.1.1 How does the software work?

The overall aim of the software is to work as business solution for companies to improve their risk and QHSE management, as outline by the producer’s website (see Synergi 1). In brief, Synergi Life can be explained to work in a circular four step process. The first step is to collect relevant data, secondly the data must be processed before it can be analysed, and lastly the data is communicated to the relevant stakeholders before new data is collected and the process starts over. However, the software is more complex, and a further in-depth explanation is needed.

The Synergi Life Engine contains different basic key elements that every new customer gets access to when implementing the software. The elements are the Synergi Life database, web server application, administration tool and the framework for performance and benchmark monitoring (Synergi 1). Synergi Life is built upon modules that are related to different matters. As Informant E explained, the HSE Incident was the first module that was created. At the time of writing this thesis, there are approximately 17 modules. Most of the existing modules are shown in figure 2, and according to the informant there is also possible to customize modules to costumers, in addition to the existing ones. The module-based solution allows the demands to meet from both reactive indicators and proactive initiatives (Synergi 1).

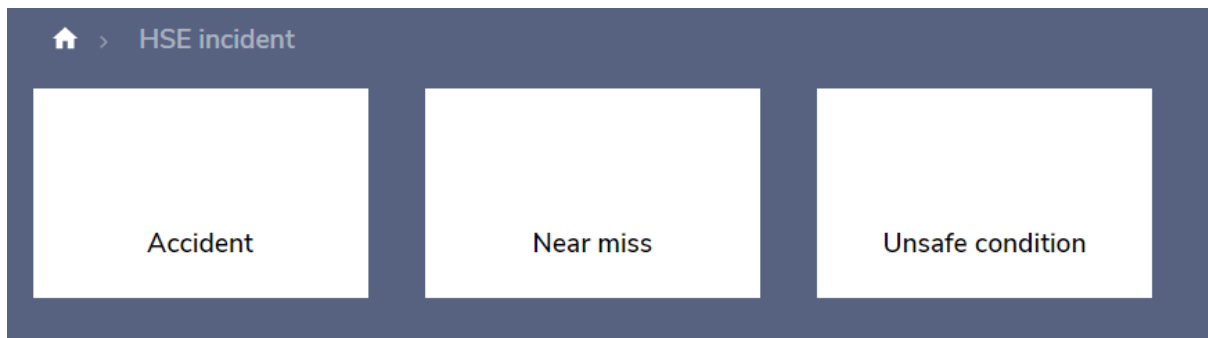
The modules are designed to be used both in combination with each other and as stand-alone solutions. Informant E explains that by saying, “most costumers start by implanting one module, for instance the HSE Incident module. After they have gotten to know the software, they usually see the need to implement additional modules”. According to the informant, Synergi Life is constantly upgraded both visually and technically to enhance the availability towards existing and potential customers. As this thesis is written, the Synergi Life version 16.29 is launching.

**Figure 2:** Example of the different modules in Synergi Life (Synergi 2)



The key element of the modules are the case types. Each module comes with a set of different case types, and this is where the data is registered manually by the users. For instance, in the HSE Incident module there are three different case types, Accident, Near miss, and Unsafe condition, as seen in figure 3.

**Figure 3:** *The case types in the module HSE Incident (Synergi 2)*



In terms of applicability, Informant E portrays a scenario that illustrates how the the module and its case types work in practice,

“if an accident happens and an employee gets hurt at work during work hours, the employee is supposed to register a new case in Synergi Life. The person should choose the HSE incident module and then the accident case type. Then a new view appears, and the employee must manually fill in information about the accident in the form”. The form is shown in figure 4.

**Figure 4:** *The view in Synergi Life when registering a new accident (Synergi 2)*

The image shows a web form titled 'HSE INCIDENT - ACCIDENT'. On the left is a vertical sidebar menu with items like 'Where and What', 'General classifications', 'Consequences', 'Loss potential', 'Causes', 'Actions', 'Attachments', 'Comments', 'Signatures', 'Connected cases', and 'Processing'. The main form area contains several fields: a text box for 'Title', a larger text box for 'Case description', and two input boxes for 'Date and time' (one for MM/DD/YYYY and one for HH:MM). Below these are three columns of dropdown menus: 'Location' (with 'Northern Europe - Norway' selected), 'Case categorisation', and 'Work process'. At the bottom, there are dropdowns for 'Responsible unit', 'Reported by unit', and 'Reported by company'. A 'Contact person' field is at the very bottom. On the top right of the form, there are 'Cancel' and 'Submit' buttons.

When a module is first implemented for a new costumer the consultants at DNV have frequent workshops with the costumer. The goal is, according to informant E, to figure out



what custom features the customer needs to be configured in the case type to make the most out of the modules. In other words, the case types are implemented as a basic version with standard features, and over time it becomes more adapted to the different costumers needs. After information is gathered in the Synergi Life database the costumers are able to generate different reports. Informant E explains how the reports makes it possible to draw statistics or get an overview of specific matters in the company's business.

#### 5.1.2 The Environmental Management Module

Since this thesis is discussing matters surrounding environmental reporting, the Synergi Life's environmental management module will be most applicable in contrast to the other modules based on the aim of this thesis which is GHG emission reporting.

The purpose of the module is to work as support for a company's environmental management. Additionally, the module supports all phases from planning to measure progress, as well as motoring all the company's environmental and sustainability activities (Synergi 3).

DNV makes a point by explaining why the environmental management module is important to companies. Accordingly, they express how addressing and understanding environmental data is not only beneficial for the company internally, but also for their external position in a globalized market.

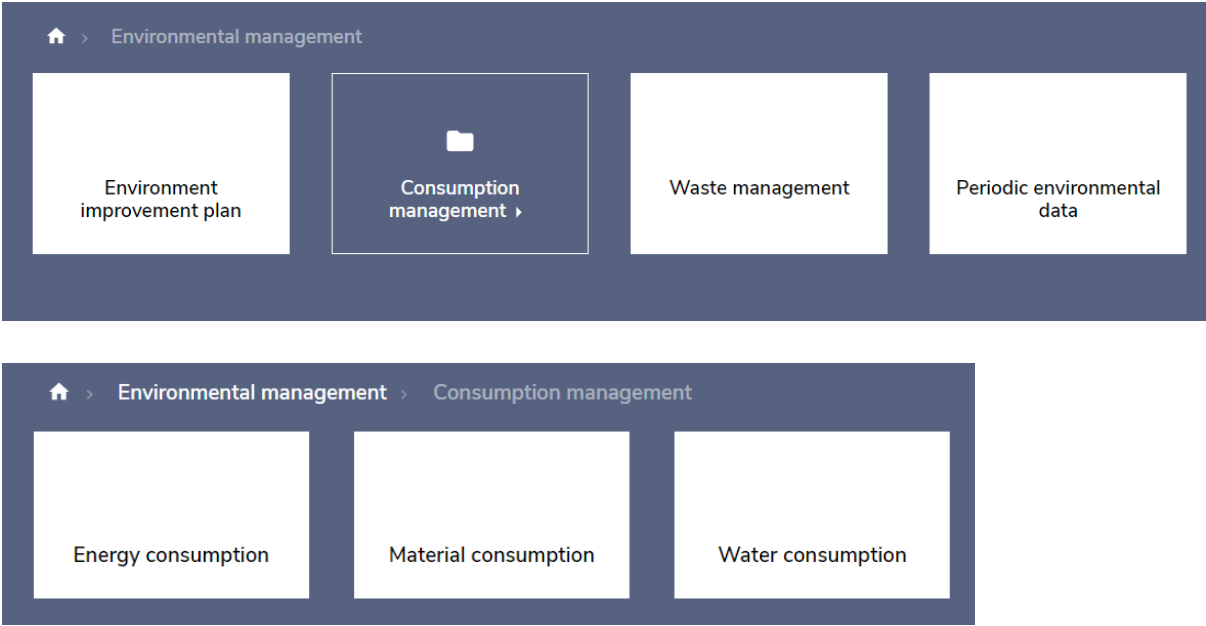
“Companies' responses to environmental challenges are becoming increasingly important as a key factor for the evaluation, understanding and public perception of their image and ability to succeed. By addressing these challenges, analysing them, and understanding their potential threats and opportunities, demonstrating the ability to manage, measure and communicate positive results, companies will realize benefits in a globalized market.” (Synergi 1, p.12)

Informant E explains that the environmental module has been a part of the Synergi Life's software (almost) since the beginning. However, environmental reporting was not as important or demanded as it is today. Therefore, the popularity and importance of the module has not been acknowledged until recent years.

Moreover, the environmental management module is divided into four different case types whereas one of the case types is further sectioned into three as shown in figure 5. The case types are Environment improvement plan, Consumption management (sectioned into Energy consumption, Material consumption Water consumption) Waste management and Periodical

environmental data. When data is added into the different case types the information can be used to make reports on certain matters, which is included in an environmental performance report (Synergi 3).

**Figure 5:** *The case types in the environmental management module (Synergi 2)*



5.1.3 Environmental Performance Report

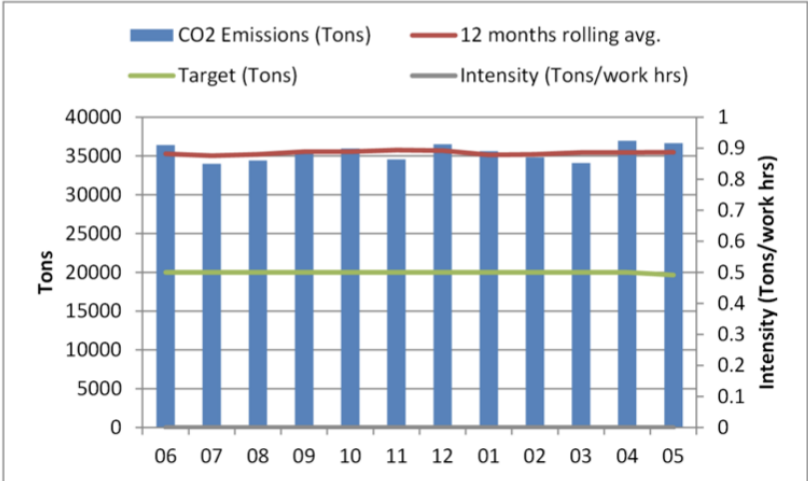
The environmental performance report is a company report that consists of the collected data from environmental consumptions, wastes, and environmental indicators. The report can be used to monitor that the company is reaching its targets as well as being published to communicate the environmental performance to stakeholders (Synergi 3).

The report can be generated to only show environmental performance within a specific period interval or at a specific location. DNV argue that companies and other stakeholders are, in some cases, have an interest in seeing their performance on a specific location, such as a production site rather than the performance of the whole business (Synergi 3). The environmental performance report includes five slides, and each slide contains charts and tables that give information related to consumption, indicators, waste, risks, and initiatives and lastly audits. Each slide also shows improvement initiatives that has been registered and is related to the specific period of time and or location selected.

Figures 6, 7 and 8 are examples on how one of the slides (emission) in the environmental performance report can look like. Since this thesis is focusing on GHG emission reporting, this has been selected as the most relevant example to present.

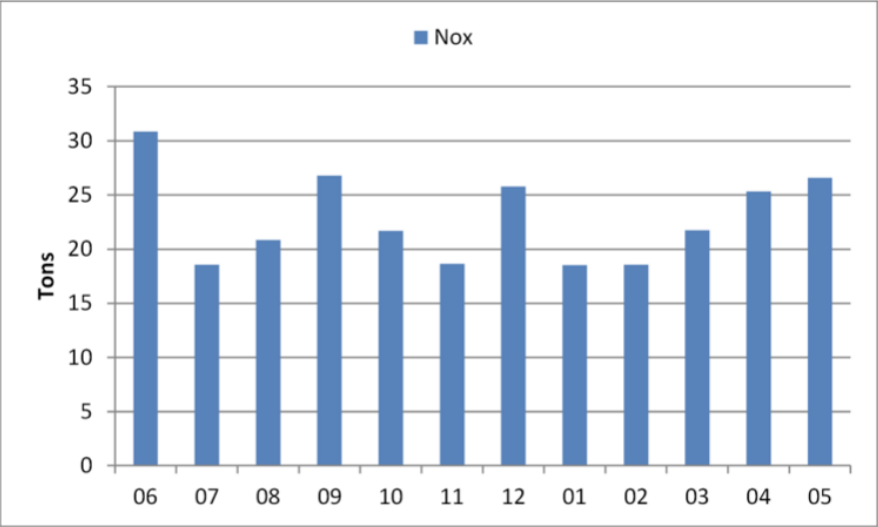
Figure 6 shows total amount of emissions for indicator substance CO2. The period interval for this graph is the last 12 months and it is distributed on months. The red line shows the calculated 12 months rolling average during the selected period. The green line shows the selected target for the same period.

**Figure 6:** Various data related to emissions over the selected case period distributed on months (Synergi 3, p.43)



Moreover, figure 7 shows all the emissions produced by other indicator substances except CO2, in the period interval chosen for this report which is the last 12 months. This data will give an overview of the company’s total emissions which is important to display because it will create more transparency than only showing one indicator substance (Synergi 3).

**Figure 7:** Emissions for all indicator substances except CO2 distributed on months (Synergi 3, p.44)



Lastly, figure 8 is an example of the registered improvement initiatives for emissions in the selected time interval of the report. The figure includes the case number on the left, the location for the initiative, and lastly the title of the improvement initiative. This figure gives stakeholders an idea of the company’s awareness and how they plan or suggest mitigating their emissions. The figure also contributes to transparency because stakeholders or other auditors can control if the suggested improvements have been done or not.

**Figure 8:** Examples of improvement initiatives given over the same period interval (Synergi 3, p.44)

Improvement initiatives emissions (7)		
<a href="#">2405</a>	Platform - X	Gas turbine with heath recycling
<a href="#">2406</a>	Platform - X	Instal VOC recycling for evaporation
<a href="#">2407</a>	Platform - X	Use of renewable energy
<a href="#">2408</a>	Platform - X	Low NOx technology
<a href="#">2409</a>	Platform - X	Closed flare system and recycling of gas

The environmental performance report makes it possible for companies to internally keep track of their own business as well as easily communicate how their business is contributing or affecting the environment, transparently, to relevant stakeholder. Informant E makes a good point by saying that stakeholder today demand environmental data and the data is required to be verified through documentation of where it is coming from. The informant further explains that only a few years back there was no requirement for verified data, but because it has become important in recent years Synergi Life is experiencing an increasing interest in their environmental module.

By creating a scalable and flexible reporting system, Synergi Life branches out to many different sectors and companies. This along with the many years of experience makes the software solution reliable and proficient in the competing market.

## 5.2 Companies reporting habits

After conducting the interviews with informants, A, B, C and D they all address the similar issues in regards of environmental reporting. Informant A has a different perspective on the matter, as a stakeholder (investor), in comparison to informant B, C and D who are responsible for handling and reporting their company's environmental data. However, the informants share many of the same views which will be presented together with their differences in this part of the analysis.

One of the first tendencies that was discovered through the interviews was the companies different reporting habits. According to informant B their company had disclosed some environmental data in the past through spread sheets in excel. However, a couple of years ago they implemented Synergi Life because they needed to be able to make environmental reports more detailed. Informant B says "we needed to be able to make environmental reports more often than once a year and the reports needed to show activity per business area or per warehouse etc. Synergi Life could provide us with such reports and at a reasonable price so that's why we chose that reporting system".

Informant C explains that they have used Synergi Life for their environmental reporting since 2018. They have therefore a lot of experience with the software and has chosen to report some part of their environmental data every month and quarterly, in addition to their mandatory yearly report. Informant D on the other hand, claims that their company is too large and that

gathering all relevant data from their locations across the world, takes time which makes them only able to report once a year. Although they have been using the Synergi Life software to report their environmental data since 2017, they don't have the capacity to report more frequently. However, they wish to make smaller reports every six months in the future. Since there are no requirements, for how many times a company should report their environmental activity, beyond one yearly report, companies tend to do it differently. This can cause further ripple effect with their reporting because their experience with reporting will differ.

Additionally, informant A believes that another reason environmental reporting is done differently, among companies, is because there is lack of knowledge about the existing requirements and recommendations. Also, different stakeholders and other requirement setters, such as regulators or legislators, are not united in what they need or want from environmental reports. The different reports can make it difficult for stakeholders, especially investors, to make a well-informed decision before they invest in a company. An example is how two competing companies can become hard or impossible to compare because one is disclosing much more data than the other.

There are different initiatives, protocols and other suggestions that outline what data or information environmental reports could or should include. One example is the GHG protocol. The GHG protocol suggest that companies should divide their GHG emissions into scope 1, 2 and 3. In recent years the Non-Financial Reporting Directive (NFRD) in the EU has made it by law for companies, that fit specific requirements (mentioned in chapter 2.2.6), to report their scope 1 and 2. However, there are no requirements for the relevant companies to report their scope 3. Informant A gives an example on this matter by saying,

“Two companies in the same sector are both disclosing their scope 1, 2 and 3 emissions. However, one of the companies are only disclosing 5% of their scope 3 in contrast to the other company that is disclosing 95% of their scope 3. Their lack of comparability will make a choice based on the two reports too deficient for different reasons. One of those reasons being greenwashing by holding back information”

According to both informant B and C their company are required to follow the NFRD requirements since their business are located in the EU. Informant D's company is located outside of the EU, in Norway, but explain that the local authorities follow the requirements given by the NFRD as well. However, Norway have adjusted the requirements of the NFRD

to fit the size of the companies in the country by scaling them down. Seemingly, the informant's companies are following (more or less) the same requirements, but they all claim to be unsure of their reporting compared to their competitors. Since the requirements and guidelines are a bit vague the investors are constantly asking for more environmental information to be disclosed, in addition to the information that is required by the authorities.

Informant A claims that the requirements given by the authorities such as the NFRD are a bare minimum compared to what they as investors need of information from a company. Furthermore, much of the requirements does not apply to most of the companies in smaller countries such as Norway and Sweden and says,

“NFRD have made their guidelines and requirements for large-scale companies which is hard to apply to companies in for instance Sweden because there is a minority of companies that have 500 employees or more, which means that most companies cannot apply the NFRD's reporting requirements' !

Moreover, the new initiative, Corporate Sustainability Reporting Directive (CSRD) may have more applicable requirements and potential because it is suggesting that companies with 250 employees or more must report their emissions. This will in other word, make the requirements apply to both medium scale companies as well as large scale companies. Also, the CSRD are, according to informant A, considering streamlining their requirements with the GRI standards. This leaves the new CSRD with more possible potential than the existing NFRD.

Based on the suggestions above a common goal between all of the informants is to generate more clear standards on what an environmental report should include for companies to become more comparable.

### 5.3 Companies' motivation behind reporting environmental information

A lot of the environmental reporting is done voluntarily by companies. Because of the lacking standards and requirements regarding environmental reporting, companies must disclose more information in order to satisfy important stakeholders. The companies can choose to meet those demands by voluntarily disclosing the extra information, or they can choose to not meet the demands and only report the required information. However, most companies are more than willing to disclose additional information voluntarily because they want the investor to invest and get a good reputation in the society at large. Moreover, each company have

different motivations behind why they disclose their environmental information in the first place. This motivation will affect their willingness to disclose the additional information demanded by stakeholders, voluntarily.

Informant A claims that the main motivation behind companies environmental reporting is the financial aspect. The informant believes that companies are disclosing their environmental information with an ulterior motive to get investor to invest in their company. The informants B, C and D acknowledges the fact that the financial aspect play a significant role in their motivation to report disclose their environmental data. However, the informants do address other motivational factors as well.

Informant C explain that they want report more than the authorities require because they want to be transparent towards investors, the society as well as their employees. The informant says,

“We have plenty of employees who regularly challenge our board and fleet managers to become greener. Therefore, disclosing emissions through scope 1, 2, and 3 as well as waste and water are important not only for the outside stakeholders, but also the inside ones (employees), although the inside part is less visible”.

By having internal motivation as informant C describes, the company gain a good relationship between their employees and board of managers. Which is almost as important for a large company maintain in addition to other stakeholders such as investors.

Informant D comments upon their motivation to report environmental data by saying it is coherent with the company’s internal goals. The informant says

“Our company has set a goal to reduce 50% of our emissions within 2025. To be able to set targets and keep track of our environmental activities we need to report all sufficient and relevant information”.

The informant emphasizes that this is important internally to visualize the process, but also to show their progress externally. By doing this the company exposes themselves more than they have to. However, the informant claims that vulnerability transparency creates, makes the motivation stronger to meet the goals.

Informant B on the other hand, explain that their company is not reporting scope 3 data and claim the reason for that is based on two factors. The first factor is their motivation. Accordingly, the company did feel pressured by stakeholders to report more advanced which



is why they transitioned to Synergi Life. However, the company, do not feel pressured and therefore not motivated to disclose more than the required information. Because they are meeting the stakeholders demand for more advanced reporting, such as having more detailed information on where the reported data is coming from, the company does not feel the need to report more than what the authorities require. In other words, their motivation is to report environmental data that meets the requirements given by the authorities.

The Synergi Life software is supposed to work as a tool for companies to easily generate reports. However, in some cases it can create obstacles as informant B explain. Synergi Life is the second factor that has made informant B's company to consciously exclude scope 3 from their environmental report. The informant explains why by saying,

“We found the Synergi Life software to be more time consuming to implement than what we initially thought it would be. A lot more data and detailed information is supposed to be reported than what we did when we used to excel. Therefore, we chose to exclude scope 3, for now, because it is not required by the local government nor the EU”.

As mentioned, Synergi Life makes it possible to store data on different matters systematically in one database. This is one of the of the features that makes the software convincing towards costumers. Also, the flexibility of the software makes it available to fit companies across sectors. However, the software is complex and for companies that are not familiar with reporting detailed information manually, it can become difficult to implement as informant B explain.

#### 5.4 How can companies become more comparable?

Another issue in relation to the ambiguous guidelines and expectations of environmental reporting, is that companies do not invest enough recourses in actually mitigating their GHG emission. Contrary, they invest their resources in an attempt to satisfy stakeholders by delivering well-informed reports. As informant A says,

“The increasing demand from stakeholders makes companies, in some cases, more interested in delivering a well-executed report and forgets the fact that they should put the resources into mitigation of GHG emissions”.

Contrary, informant C explain how their company has consciously chosen to invest a lot of resources into their environmental reporting. The informant justifies that by saying,

“To become greener, you obviously have to know how much you're missing before you can set a target and then work from there. You also need you need to know where the high emitters are to be able to decarbonize and target the right areas. Through reporting we are able to monitor and see if we're meeting our targets”

Furthermore, the informant explains that they do not only use their environmental reports to satisfy authorities and important stakeholders, but also to keep certain certifications such as their diesel certification.

In this case, the invested resources are necessary for the company to understand where they should mitigate and since the company is reporting so frequently their transparency forces them to reach their targets.

Another way to make environmental reporting standardised is for similar companies to align their reports with each other. By doing that companies can make their reports to become more legitimate because they are comparable with the competing companies. As informant D says,

“The deficiency in standardised requirements for environmental reporting has led our company to join a working group with other similar companies in Norway, within the same sector. The goal of the working group is to establish some fundamental standards for how we (should) report our environmental data. We do this because we want to become comparable.”

Based on the requirements that exist today, companies can choose what data they want to exclude or include. That “freedom” or lack of standards can affect the legitimacy of their reports. One solution to solve the issues could be to make more standardised and even universal requirement for what information an environmental report must include. Such universalities can be developed differently. The authorities could make more detailed requirements as well as the stakeholders streamlining their needs. However, that is easier said than done. Different authorities in different countries will have various requirements. Informant A suggest that similar or collaborative countries should be able to make their requirements similar, such as countries in the EU or OECD. Also, companies could be categorised based on their similarities such as sectors and size (financial and employees). Companies with those similarities are likely to share the same stakeholders. Based on that categorization stakeholders could more easily streamline and communicate their needs. Also,

companies can work together to suggest standards or at least streamline their reporting to make it more consistent and less diverse.

### 5.5 Is there a possible solution?

There is no doubt that environmental reporting is missing consistency and clear standards, after presenting the findings from the interviews. Both companies and stakeholders want to make companies, based on their environmental reports, more comparable. As, presented above, there are several suggested paths to a solution. If only one of the suggestions is followed, the consistency will become better. The companies should know exactly what to report to whom. If the authorities make more requirements, the stakeholder do not have to demand, as much, additional information. That will make the process of environmental reporting become more efficient and less time-consuming for companies. However, the demand from stakeholders is constantly increasing and the authorities' requirements do not seem to keep up. Therefore, the best solution may be for companies to align their reports, as well as for stakeholders to streamline their needs as much as possible.

## 6 Discussion and Analysis

The aim of this thesis is to get a better understanding about environmental reporting in the corporate world and to see how a reporting system such as Synergi Life facilitates environmental reporting. The discussion will be structured by answering the two research questions that were introduced in the introduction. The theories, literature and data disclosed in this thesis will be systematically used to assess the analysis. In most of the literature and relevant studies environment, society and governance factors are combined and the term ESG reporting is therefore used. However, as described in the introduction, the data collected for this thesis is focusing on environmental reporting. Therefore, environmental reporting will be used as a stand-alone term in this discussion and analysis, instead of the term ESG reporting.

### 6.1 RQ 1: How is environmental reporting challenging from a stakeholder's perspective?

After countries agreed to adopt the Paris Agreement in 2015, more companies have chosen to align their business to become more sustainable and work towards the global goal of the agreement. The environmental movement (Tilt, 1994) has therefore become more prominent in the corporate world in recent years. Because of that, stakeholders have set sustainability and environment on the agenda for companies to participate in the energy transition.

Based on the stakeholder theory and Littau et al., (2010) is a stakeholder explained to be a group of people from the society that has an interest in and/or is affected by a company. Moreover, stakeholder is also considered to be the groups in a society a company is relying on to survive (Hult et al., 2011). This argues for why stakeholders have so much influence and even power over companies. Because of their power, stakeholders are able to set the current agenda or focus in a society. Searcy (2014) describes stakeholders as closely connected to the concept of sustainability as well as impacting companies' decision making. This speaks to why stakeholders, such as the one interviewed for this thesis, is demanding more insight into the company's business.

As explained by Mitchell et al., (1997), stakeholder should show power, legitimacy, and urgency. These three attributes can be discussed to determine how much a stakeholder, such as an investor or employee, are able to contribute to the company.

One measure that companies can do to show how their business affects the environment, is to report their environmental activities e.g., GHG emissions. Organizations such as UNPRI and GRI have been making guidelines and suggested standards for what environmental information companies should disclose, for many years (UNPRI, 2022; GRI, 2022; Lokuwaduge and Heenetigala, 2016). However, there are no regulatory frameworks developed for how companies should do their environmental reporting nor what the reports must include. One of the main reasons for that is because it is not mandatory for companies to report environmental activities in many countries, and even if it is mandatory in some countries, it does not apply to all companies (Nelson, 2021). This makes it difficult for stakeholder to know what to expect from the different companies and for companies to fulfil stakeholder demands.

Another issue that arises due to the aspect of environmental reporting not being universally mandatory, is that companies do not have to meet the stakeholders demands. Companies can choose what information they want to include and what information they purposely want to exclude. This makes it difficult for stakeholders to get access to and an extensive overview of a company's environmental activities, because they may have excluded vital or sufficient information. In comparison, financial reporting has developed clear frameworks for how companies should report their revenue and what information the reports must include (Lokuwaduge and Heenetigala, 2016; de la Cuesta and Valor, 2013). Based on the financial reports, stakeholders can easily know what information to expect from the companies as well as companies being comparable. If a company do not include certain information or numbers in their annual financial report, stakeholders can call them out and expect them to deliverer it, because it is mandatory.

Moreover, stakeholders are demanding insight into companies' environmental activities. Based on the interviews, it became clear that especially investors, in most cases, want more information than what is provided through the authorities' requirements. This points at another conflicting aspect which is that different countries will have different requirements on what environmental information a company must disclose. Stakeholders are, on the other hand often investing in companies across borders. Which means that two competing companies can report completely different based on what country they are located in. This further leads to the companies' (environmental information) not being comparable.

The NFRD is used as an example of environmental requirements for companies that are located in the EU (Directive 2014/95/EU). However, the requirements given by the NFRD have been criticised for being too vague and not applicable to most companies (Baumüller and Grbenic, 2021; European Commission, 2019).

Therefore, new requirements have recently been suggested, known as the CSRD (European Commission, 2019). On one hand the new requirements delivered by the CSRD will apply to more companies. Also, if the CSRD are able to streamline their requirements with the GRI sector-based standards, as one of the informants claimed in the interview, some of the inconsistency in environmental reporting may become better. On the other hand, as Arvidsson and Dumay's (2021) study points out, the CSRD will focus more on the information quality of the ESG reports. One of the benefits that comes from better quality reports is legitimacy. However, by making companies put more time and effort into the quality of their report may cause them to focus less on their actual environmental performance. As a result, actual mitigating of companies' emissions is at risk of becoming secondary with the new CSRD requirements.

Voluntary environmental reporting is in practice what the stakeholders are demanding and relying on from relevant companies. However, as already discussed, the companies can decide themselves if they want to provide any of the additional environmental information to stakeholders or not. Based on the data collected in this thesis, it will not be possible for this study to state or determine if companies in most cases choose to disclose the additional information or not, but it can be interpreted based on the interviews conducted in this thesis. Based on the interviews, most of the informants claimed that they (the companies) voluntarily disclose additional information to stakeholders. They explained that their companies' motivation to report the additional environmental information was based on factors such as, economy, reputation (internally and externally) and transparency (internally and externally).

The company's shareholders such as owner or managers, can also play a significant role in whether companies choose to report their environmental activities voluntarily. Firstly, the company has a contractual responsibility towards the shareholders, which means that the company has to work to meet the shareholders' wants (Fontrodona and Sison, 2006).

According to the shareholder theory presented in this thesis, shareholders often want to maximise their utilisation of the company by choosing their own interests, often related to economy, at expense of principal (Moore, 1999; Fontrodona and Sison, 2006). In some cases,

shareholders may therefore have conflicting interests with the demanding stakeholders and choose not to disclose certain information. However, because a company is reliant on their stakeholders to maintain and expand their business, they should choose to meet (reasonable) demands from stakeholders. Moore (1999) argues that shareholders should, based on the latter, see stakeholder as participants in establishing a company's direction and growth. In other words, stakeholders should not be seen as means or tools for shareholders to maximise their internal interests, but as important contributors to the companies.

Additionally, it can be argued that stakeholders have more power than the shareholders because they are more "hands on" compared to shareholders and they are aligned with the society's agenda. However, the shareholders can impact the company's level of legitimacy. By being transparent and give insight to the company's triple bottom line (social justice, economic prosperity, and environmental quality), shareholders are able to gain, or remain, legitimacy by stakeholders (Elkington and Rowlands, 1999; Hawken, 1993).

Today, companies are determined to satisfy a broad spectrum of stakeholders in order to be seen as a legitimate company (Deegan, 2000). According to Deegan (2014) legitimacy theory can be a possible clarification or explanation for why companies choose to disclose environmental information, in addition to other sustainability factors, voluntarily. The reason is because a company that keeps up with the societal expectations are able to gain or maintain legitimacy. Therefore, when it is expected by the society (stakeholders) that more information about companies' environmental activities is needed for them to, for instance, invest, the company should understand the importance of disclosing that information although it is not mandatory, but voluntarily. However, if the stakeholders are not able to extract the right information from the provided voluntary information, uncertainties around the companies' activities can occur. Moreover, uncertainty is one of the larger threats against a company's legitimacy (Ashforth and Gibbs, 1990; Suchman, 1995). As portrayed by the interviews, one of the participants are disclosing additional information voluntary to satisfy their stakeholder. One of the purposes explained by the informant is for the company to gain a good reputation and to maintain legitimacy which is a good way of self-promoting towards other stakeholders as well as competitors. Legitimacy can also be argued to be an effective tool or mean stakeholders can use to impact or persuade the managers (shareholders) in a company to report more additional information, voluntarily.

It is obvious that the lack of non-universal and standardised rules and framework for environmental reporting makes it challenging for stakeholders to obtain additional information voluntarily. The information that companies do report based on requirements from authorities or demand from stakeholders, varies a lot. This makes it challenging for stakeholders, especially investors, to compare to competing companies towards each other. In addition to the lack of standards, companies' habits for reporting can therefore affect the lack of comparability further.

As portrayed by the informants, their reporting habits vary. Some companies are used to disclosing a lot of data and have a more established system and experience for how to do it, in comparison to others. The GHG protocol's categorization of emissions is a good example to visualise how differently companies can report their emissions (GHG Protocol, 2022). Some companies have chosen to report their scope 1, 2, and 3, whilst others just follow the requirements given by their authorities such as the NFRD. The NFRD only requires large scale companies (500 employees or more) to disclose their scope 1 and 2 (Directive 2014/95/EU). Companies that do not include scope 3 emissions in their environmental reports are not comparable to the companies that do. The majority of a company's emissions are often scope 3 related, based on the explanation of what the different scopes include (Buckley, 2013; Global Climate Initiative, 2022). Because of that, more companies choose to report their scope 3 voluntarily, because it is related to a large part of their emissions. However, there are no guidelines for how much of the scope 3 that should or must be reported. Therefore, companies that do report scope 3 emissions can report different percentages which also make the reports hard or impossible to compare.

Moreover, based on the discussion and analysis conducted above, the environmental movement is in full rise, in every part of the society. Stakeholders can be seen as important participants that set the right focus on a current agenda and pressures the corporate world to follow the agenda and align their business thereafter. Therefore, it has become important for companies to adjust and align their business and values to become more sustainable and environmentally aware. By reporting voluntarily and being transparent companies can gain legitimacy and a good reputation, which is a way of self-promoting their business. However, legitimacy is gained from the different stakeholders in the society and companies have to fulfil their demands. Because of the lacking standards and diverse interests and habits, stakeholders find it challenging to establish a well-informed opinion on a company's



contribution to the environment. However, new improvements such as the CSRD, speaks to more concert measures and focus on sustainability reporting in the coming future. However, it can be difficult to make universal standards and requirements for companies that are located in different countries. Also, stakeholders will have different demands which will make the process of (more) universalities further challenging. Moreover, based on the collected data, it can be interpreted that countries are reporting and disclosing more environmental information each year (scope 1,2, and 3), voluntarily. That tendency will most likely help the challenges stakeholders are meeting in environmental reporting. Lastly, generating better reporting in a transparent systematic software system can also contribute to make environmental reporting become more comparable and trustworthy.

## 6.2 RQ 2: How does Synergi Life facilitate environmental reporting?

Synergi Life is a well-established reporting software where companies can register information on different matters and further generate reports. The software has been on the market for over 30 years and is contently being advanced and upgraded to fit companies across sectors and their needs. One of the matters companies can register their information on is environmental activities.

The software is categorized in different modules and each module is based on a specific matter, such as environmental information or HSE incidents among others (figure 2). The modules are further divided into case types (figure 3). The information is registered in the relevant case type, manually. The information that is gathered through the case types is stored on the relevant company's Synergi Life database which makes it possible to keep track and document the company's progress. Furthermore, the software aims to being easy to implement into a company's business (Synergi 1).

In recent years, Synergi Life have been experiencing an increasing interest in the environmental module, both from new and exciting customers. This can be seen in relation to the emerging focus on the different groups in society's sustainability as well as the corporation's responsibility towards the society (CSR) (Tilt, 1994; Xiao and Park,2021;

Searcy, 2014). The CSR actions are described as companies going above and beyond what is required by them from laws and regulations. As discussed above, stakeholders are demanding more insight to companies' environmental information. Since it is not too many standardised requirements for environmental reporting yet, companies are going above and beyond when they choose to report their environmental activities voluntarily (Krueger et.al., 2021; Cheng, et al.,2017).

Synergi life is using the company's responsibility together with the lack of standard to their own advantage by offering scalable and flexible environmental reporting system. Since there are no "rules" for how environmental reporting must be done, Synergi Life are able to customize the software to each customer. Based on the information from the result, the intention of the software being so flexible is to be available to as many customers across various countries and sectors as possible. A software with Synergi Life's flexibility becomes very attractive to companies as they can decide what information they want to include and communicate through their reports. On the other hand, the flexibility and "freedom" each company have due to the lack of standards can affect the legitimacy of their reports. This is similar to how Liesen et al., (2015) argues that the legitimacy of environmental reports can be threatened by it being done voluntarily and that companies can exclude the information they want. However, the legitimacy can be gained if a company discloses sufficient and enough information (Liesen et al., 2015; Lokuwaduge and Heenetigala, 2016; Nelson 2021).

All of the collected data is stored in the company's own Synergi Life database. By storing all information in one database companies are able to go back and look up previous information, for instance emissions emitted in a specific time period or from a specific location, among others. This further allows the company to prove the accuracy of their environmental impact over time, as well as document more detailed information about their business' impact to stakeholders. By providing accurate information that can be documented also speaks to the company's legitimacy. By giving insight to the old information, inconsistency or falsities may become easier to detect. Therefore, a system like Synergi Life makes it possible to gather as much detailed information as possible (figure 4) which further can be used to gain or maintain legitimacy.

Improvements initiatives are example of information companies can use to ensure accuracy and document their business' progress. When companies register their data in Synergi Life they are able to make improvements initiatives. The initiatives are often related to a specific

location, such as a platform, production site or office. The initiatives are included in the environmental performance report which makes it easy to see where the company sees room for improvement, how and what they suggest the improvement should be and why the improvement is needed. Moreover, the improvement initiatives are an important asset or feature for both the company and the stakeholder. For the companies it becomes clear visualization of what needs to be done to improve their environmental activities. Which strengthens their accuracy and transparency (Liu et al., 2020). The stakeholder, on the other hand, are able to see how the company acknowledges their potential for improvements and to keep track and follow if the initiated improvements are actually being done.

Additionally, Synergi Life also makes it possible for companies to generate reports how they want and how often they want. The reports make it easy for the company to internally follow their own progress towards their targets. Reports can be generated on specific factors such as, substances, case types, locations, periodic intervals to name a few. Also, one big report called the environmental performance report can be made with all information from the different case types in the environmental management module. An environmental performance report is typically generated once a year to show environmental activities in total over the past year including relevant improvement initiatives. The report is, as explained in the results, divided into slides and the companies can choose to exclude or include slides as they want. However, the layout of the slides is, more or less, determined. This speaks to the transparency and legitimacy of the report, because it is difficult to change numbers or exclude only certain numbers (Deegan, Rankin and Voght 2000; Patten, 1992).

Because of the determined factors in the environmental performance report, stakeholders are able to see some consistency in the reports. Although Synergi Life facilitates environmental reporting to be customized to different companies, the layout of their reports is the same. This speaks to the comparability, when a stakeholder is going to compare two companies it is possible to see the distinct differences or similarities. Liu et al., (2020) argues that companies ESG reports often missing three fundamental factors because of the missing rules and standards. The three factors are authentication, consistency, and transparency. Based on the discussion above, does Synergi Life facilitate their environmental reporting in a way that first and foremost benefits them to reach customers across sectors. Secondly, it benefits the companies because is possible to customize the software to their needs, and lastly it is

beneficial for the stakeholders because of the transparency and authentication in the reports and how old data and is traceable through the database which speaks to the legitimacy.

However, it is important to emphasize how the discussion above is applicable for companies that have implemented the software good in their business, because they will be able to generate the best use out of it. The software is complex and especially new customers may use some time to implement it into their business. Accordingly, the more experience a company has with the software, the more use and possibilities will be generated from it. In other words, a company must firstly take time to figure out what information they want to report and communicate, before they know which features, they need to implement to be able to gather the right information. This can make companies report a bare minimum of their information or not sufficient data. The implementation of the software is therefore very important. The discussion above will not be accurate for companies that have not implemented the software correctly because legitimacy and transparency will become more difficult to gather for a stakeholder.

Moreover, based on this discussion it becomes clear that Synergi Life's software facilitates environmental reporting by being flexible and scalable. The software is using the lack of standards in environmental reporting to an advantage and make it possible for companies to customize the system to their needs. If the software became less flexible it could help with increasing the consistency and comparability of companies' environmental reports. However, Synergi Life is used across sectors which means that making all companies report the same data would make the reports too general. In other words, it could become difficult or impossible to extract relevant information from the reports. Therefore, until stakeholders, companies or authorities provide more consistent standards or requirements, Synergi Life should continue their business as usual and continue to provide companies and their stakeholders with the flexibility and the right features to gather the information they need.

## 7 Conclusion

In this last chapter of the thesis a brief explanation on the most significant findings from this study is presented along with limitations. Lastly, some suggestions for possible further research are addressed, to give a pointer to how this thesis and its findings can contribute to other research.

Because of the increasing focus on sustainability in the society, companies are responsible towards groups in the society (stakeholders) to align their business with that focus. Through that responsibility (CSR) companies can be held accountable for their actions. Even though it is not mandatory to report all or certain environmental information, companies are still more prominent to do it to gain legitimacy and a good reputation in the society. However, the “backside” of gaining recognition through disclosing environmental information is that more groups in the society is watching the company as well as it is more prominent to be held accountable for its actions/activities.

Moreover, based on the discussion and analysis above the main overarching challenge when it comes to companies environmental reporting is, the lack of standardised rules and requirements on what environmental reports should include. This leads to companies not knowing what to include in their report which further makes two competing companies have two completely different environmental reports. By reporting differently, stakeholders are not receiving enough sufficient information and are not able to compare the companies and claim which company is “better”. Also, different stakeholder groups such as investors and employees will probably need different types of information to assess a company based on their needs/interests. Therefore, environment reporting can be a time-consuming process and not very efficient for companies. However, based on the conceptual contract the company has towards its shareholder, they should choose to report the information that is requested because it will most likely benefit the company (and its shareholders).

When assessing the all the information in this thesis it is seemingly more beneficial for a company to invest more resources and disclose the information stakeholders want, in comparison to them not doing it. The reason is that a company is relying on stakeholders (investments) to be able to grow both in size and also economically. Therefore, by not

reporting stakeholders such as investors can choose to not invest. This will not be beneficial for the company nor its shareholders.

The software Synergi Life has chosen to translate the lack of standards in environmental reporting, to a flexible and scalable software. This is good in terms of the software's availability towards new and existing customers. However, it does not necessarily help the standardisation of environmental reporting. The software in itself is not contributing to more comparability, but it makes companies use and understand the same software and consolidate the same visual reports which can contribute to some similarities over time.

It is difficult to make a concrete conclusion on this thesis because not enough perspectives or participants are involved to have a solution. However, I will argue that universal standardisation based on companies' sector and size probably is the best solution to solve the challenges presented in this thesis. By doing that, both stakeholders and the companies know what to expect from the environmental report, which means that stakeholders can align their business or needs based on the preconditions and companies can implement a way of reporting which would make the process more efficient. Such standards would also make it easier for reporting software such as Synergi Life to implement because customising their reporting system to every new customer, as they do today, is not ideal in the long run.

### 7.1 Limitations

The first limitation this thesis has is the scope of participants. The thesis has full access to the software that is studied, but there is not enough participant to make any significant conclusions.

Also, environmental reporting is a topic that is increasing rapidly. New requirements for environmental reporting in the EU have just been presented (CSRD) and more countries will probably follow in the same direction. Therefore, the time frame of this thesis is not enough to study the phenomena to its full potential. Firstly, five months it is not enough time to study or see evolution of environmental reporting standards. Secondly, five months is not enough time to study and see any evolution in the reporting software, Synergi Life, either. The suggestion for further research will take the limitation factors of this thesis into account.

## 7.2 Future research

For further research it would be necessary to gather data from a larger group of participants. For instance, if a large group of companies participated it could be possible to study how “most companies” do their environmental reporting. The same goes for stakeholders. If a larger group of stakeholders were participating it would become clearer how they demand different information.

Further a quantitative survey of a larger sample of the Synergi Life users or of companies that uses another reporting system could be interesting to study. It would give a larger scope which would make it possible to say more about the possibilities and limitations of the software. Synergi Life is not the only reporting software on the market. It would therefore be interesting to compare two reporting systems and understand how they vary and why they vary.

Moreover, for more long-term studies it would be interesting to go more in-depth in one or a few specific companies and study their reporting habits over time. For this thesis the participants told me their habits of reporting, but if I were to study it, another result may have appeared than what they told.

A long-term study of how companies use the information they gather through environmental reporting would also be an interesting study. That could give a picture on how companies use the information to improve their business and mitigate GHG emissions or if they only report to satisfy stakeholders and society at large.

The new EU taxonomy could also be interesting to see how it will affect corporations' environmental reporting or ESG reporting. Also, corporate ESG reporting could be studied together with the UN's sustainable development goals (SDG) to say more about corporations' sustainability in the global world.

There are many different angles to further approach and study the topic this master thesis is researching, as portrayed above. Hopefully environmental reporting and ESG reporting keeps being enlightened by researchers. I believe more research on the topic will put an extended pressure on regulator and legislator to make (more) standards that can passably solve the challenges this thesis is addressing.

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## Appendix

Synergi 1:

<https://drive.google.com/file/d/19z3zLbJOt2hRDpcBjgRh3O5pIsPw7q8Y/view?usp=sharing>

Synergi 3:

<https://drive.google.com/file/d/1TzrVGNUTlbDNwVXJzi6ZW6gVwW2goRQi/view?usp=sharing>



## Interview Guide, informant A

1. What is your current professional position?
2. What does a XXX do?
3. What are your responsibilities?
4. How long have you worked as an XXX?
  
5. From the perspective of an investor, what are the most pressing issues with environmental reporting?
6. How do you feel that the limitations and recommendations that exist are communicated?
7. Why do you believe that there is not any universal way of reporting within the different industries?
8. Do you think universal ways of reporting can be possible in the future?
9. If yes, who do you think should establish such a way of reporting?
10. What frameworks does the investor base their benchmarks on?  
legislations/policies/regulation/agreement
11. From an investors point of view, what do you believe is the main motivations behind companies' environmental reporting?
12. How transparent should the environmental reports be?
13. If you could create a universal reporting system, how would it look like? What are the most important aspects to report?
14. Is there anything else that you would like to add to this topic?

## Interview Guide, informants B, C, and D

- 1) What is your current professional position?
- 2) What does a XXX do?
- 3) What are your responsibilities?
- 4) How long have you worked as an XXX?
  
- 5) How do you use the environmental module?
  - a) How long have you used the module
  - b) Who reports?
  - c) How often do you report?
  - d) What do you report (scope 1, 2, 3)?
  - e) Who gets to see the results (transparency?)
  - f) How do you use the reports?
- 6) Why do you report and why Synergi life?
  - a) External desire / pressure (authorities, investors etc)
  - b) Internal desire to get a clear idea, look for potential for improvement for the company,
  - c) how do you see your reporting contributing to the energy transition?
- 7) What is the motivation for reporting a company's emissions?
  - a) financial motivation vs environment
  - b) internal motivation to become greener or to get investors to invest in the company?
- 8) Advantages / Disadvantages / Potential for improvement with Synergi's environmental module
- 9) Is there anything else that you would like to add to this topic?

## Interview Guide, informant E

1. Hva er din tittel og rolle i selskapet?
  - a. Hva jobber du med?
  - b. Hva er dine ansvarsområder?
  - c. Hvor lenge har du jobbet med dette?
2. Kan du forklare hva Synergi Life er?
  - a. Hva var tanken da det startet
  - b. Hva var målet med tanke på omfang av kunder
  - c. Har du oversikt over hvor mange sektorer og selskaper som bruker Synergi?
  - d. Hvor mange sakstyper er det i synergi?
  - e. Hvilke sakstyper selger dere mest
  - f. Hvordan stiller miljømodulen til dette?
3. hvem er konkurrentene deres?
4. Miljømodulen
  - a. Når kom miljømodulen på banen?
  - b. Hva gjorde at dere valgte å starte denne modulen?
  - c. Opplever dere mye konkurranse på denne modulen kontra de andre stor modulene dere har?
  - d. Er det alle typer selskaper som bruker denne modulen eller er den mer tilpasset en type sektor eller størrelse på selskapet?
  - e. Har dere sett en økning av etterspørsel og utvikling i forhold til miljømodulen?
  - f. Hvor mange kunder har dere pr i dag?

## **Vil du delta i forskningsprosjektet Mathildes masteroppgave?**

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å besvare spørsmålene oppgaven reiser. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

### **Formål**

Oppgaven min ser på miljørapportering og hvordan åpenhet innen miljørapportering kan påvirke eller bidra til energiomstillingen. Jeg bruker Synergi miljømodul som et eksempel på hvordan rapportering kan gjøres, men for bedre å forstå hvordan og hvorfor den brukes og for å dekke andre aspekter ved miljørapportering vil jeg gjerne intervjuer selskaper som bruker modulen.

### **Hvem er ansvarlig for forskningsprosjektet?**

Det samfunnsvitskaplege fakultet er ansvarlig for prosjektet.

### **Hvorfor får du spørsmål om å delta?**

Du har førstehånds kunnskap om Synergi Life, spesielt miljømodulen.

Jeg har fått din kontaktinformasjon fra vårt felles nettverk.

### **Hva innebærer det for deg å delta?**

Jeg vil gjennomføre et uformelt og ustrukturert intervju. Jeg ønsker at dette skal oppleves mer som en flytende samtale enn et formelt spørsmål og svar intervju. Jeg ser for meg at intervjuet kan vare opp mot 60 min. Mulighet for oppfølgings spørsmål over mail eller annen kommunikasjon, må forventes. Jeg vil ta lydopptak av intervjuet som sammen med annen kommunikasjon vil oppbevares elektronisk.

Dette er noen spørsmål/tema jeg ser for meg ast blir aktuelt under vårt intervju.

hvordan de bruker miljømodulen

- Hvor lenge har dere brukt modulen
- Hvem rapporterer inn
- Hvor ofte rapporterer dere inn
- Hva rapporterer de inn (scope 1, 2, 3)
- Hvem får se resultatene

, hvorfor de bruker den

- Eksternt ønske/press (myndigheter, investorer etc)
- Internt ønske for å få oversiktlig, se for bedringspotensiale for bedriften, hvordan dette kan være positivt på det grønne skiftet (dette er viktig)

Hva er motivasjonen for å rapportere bedriftens utslipp?

- Få frem økonomisk motivasjon vs miljø

Fordeler/Ulemper/Forbedringspotensial med Synergi sin miljømodul

### **Det er frivillig å delta**

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

### **Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

- Jeg Mathilde Amdahl Helgesen (student) og Raul Ferrer Conill (min veileder) vil ha tilgang på dine personopplysninger, ingen andre.
- Navnet og kontaktopplysningene dine vil jeg erstatte med en kode som lagres på egen navneliste adskilt fra øvrige data

Som deltaker vil du ikke kunne bli gjenkjent når/hvis min oppgave publiseres. Rolle, business area, evt tittel vil være type opplysning som vil bli publisert.

## **Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?**

Opplysningene anonymiseres og slettes når prosjektet avsluttes/oppgaven er godkjent, noe som etter planen er august 2022.

## **Dine rettigheter**

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg, og å få utlevert en kopi av opplysningene,
- å få rettet personopplysninger om deg,
- å få slettet personopplysninger om deg, og
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger.

## **Hva gir oss rett til å behandle personopplysninger om deg?**

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Det samfunnsvitenskapelige fakultet ved UiS har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

## **Hvor kan jeg finne ut mer?**

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Oluf Langhelle (Instituttleder, Institutt for medie- og samfunnsfag)
- Mathilde Amdahl Helgesen ([mathildeamdahl@gmail.com](mailto:mathildeamdahl@gmail.com), +4793007026)
- Raul Ferrer Conill ([raul.ferrerconill@uis.no](mailto:raul.ferrerconill@uis.no))

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:

- NSD – Norsk senter for forskningsdata AS på epost ([personverntjenester@nsd.no](mailto:personverntjenester@nsd.no)) eller på telefon: 55 58 21 17.

Med vennlig hilsen

Raul Ferrer Conill  
(veileder)

*Mathilde Amdahl Helgesen*

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## **Samtykkeerklæring**

Jeg har mottatt og forstått informasjon om prosjektet og har fått anledning til å stille spørsmål.  
Jeg samtykker til:

å delta i intervju

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

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(Signert av prosjektdeltaker, dato)